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Environmentally and Socially Sustainable Development*

Kyrgyz Republic

Agricultural Policy Update

Sustaining Pro-poor Rural Growth: Emerging Challenges for Government and Donors



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WEIGHTS AND MEASURES

Metric System

ABBREVIATIONS

CASE	– Center for Social and Economic Research
CET	– Common External Tariff
CIS	– Commonwealth of Independent States
EU	– European Union
FDI	– Foreign Direct Investment
FSU	– Former Soviet Union
FTAs	– Free Trade Agreements
GDP	– Gross Domestic Product
IMF	– International Monetary Fund
NGOs	– Non-Government Organizations
NPRSP	– National Poverty Reduction Strategy Paper
OECD	– Organisation for Economic Co-operation and Development
SAM	– Social Accounting Matrix
SMEs	– Small and Medium Enterprises
UN	– United Nations
USAID	– United States Agency for International Development
VAT	– Value Added Tax
WTO	– World Trade Organization

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EXECUTIVE SUMMARY

Agricultural growth performance and policy reform

1. *Agriculture is at a critical juncture in Kyrgyzstan.* Following acceleration of land reforms after 1995, Kyrgyzstan's agricultural growth has been impressive. Sector growth moderated after 1999 but remained high, about 5% per year, while rural poverty fell substantially, at a rate of about 8% per year. Critical choices must now be made if growth is to be sustained. Significant potential exists for future growth, but bringing out this potential poses a major challenge for government policy. Agricultural strategy must shift its focus towards support for continuous productivity growth by peasant farms in a conducive marketing environment. Key priorities include completion of land reforms (especially in the North); fundamental restructuring and reorientation of public agricultural services, with greater emphasis on private service delivery and cost recovery; and a shift in agricultural public expenditures toward support for private commodity markets and private-sector based systems for technology transfer. In addition, irrigation rehabilitation, operation and maintenance, and cost recovery should continue to receive attention and support. These measures will need to be complemented by broader rural development measures – most importantly the rehabilitation of basic infrastructure in rural areas – in a manner that supports the Government's policy of fiscal and administrative decentralization. Development of rural infrastructure that is locally planned, financed, and maintained, will contribute to both farm and rural non-farm development over the medium and long-term.

2. *The defining characteristic of the recent growth experience has been the reduction in subsistence food orientation and the emergence of commercially minded peasant farms.* By 2002, small family farms operated 71% of arable land and produced about one half of the value of production and the majority of the agricultural marketed surplus. They managed to improve crop yields (and to a lesser extent livestock yields) with relatively low input use levels through better management of the resources at their disposal than the previous landowners. They were also able to take advantage of regional price increases for crops and livestock by increasing commercial sales.

Future potential

3. *Continued productivity growth by peasant farms is essential for the sustainability of future agricultural growth.* This requires improved market opportunities and more extensive input and output networks serving small farms. Growth is essentially a demand-led process. All the available evidence indicates that Kyrgyzstan's peasant farmers are responsive to market opportunities and can compete with imports in an expanding domestic food market. There is also considerable scope for improvement in exports of traditional export products (cotton and livestock products) and newer products. While efforts should continue to remove regional marketing constraints, development of lower cost domestic markets and supportive rural infrastructure and services are also important. This will be crucial if farmers are to compete with imports and will prepare the ground for future export expansion.

Strategic framework for rural growth and poverty reduction

4. *Agricultural growth is central to overall economic growth and continued poverty reduction.* Agriculture sector performance has a huge impact on Kyrgyzstan's economic performance, due to its large share of GDP (36%), and major share of employment (53%). It is also the leading source of exports and has the potential to generate significant non-farm

economic activity through income and employment multipliers (to date indirect effects have been limited because the demand for non-food commodities and services is only starting to emerge.) Continued agriculture sector growth based on productivity growth is central to meeting the targets of the National Poverty Reduction Strategy Paper (NPRSP) which include 5% annual GDP growth, and a cumulative reduction of one million people in poverty, without increasing income inequality.

5. *First priority is the completion of land reforms and farm enterprise privatization.* The unfinished land reform program means that about 13% of arable land is still held by agriculture enterprises that are unable to use it efficiently. As the efficiency gap between these enterprises and peasant farmers widens further, delay in completion of land reform agenda leads to missed growth opportunities.

6. *Future growth depends on improvements in agricultural productivity through technical innovation by peasant farms.* Achievement of this objective will rest on success in the establishment of sustainable institutions – primarily private sector based - for transfer of existing technologies to farmers. This requires changes in policy and public expenditure.

On the policy side:

- Revision of regulations in input markets that restrict entry of private traders and producers;
- Improvements in the tax policy (VAT) and regulatory environment to encourage integration of smaller farmers, processors and input suppliers;
- Policy reforms that improve the business and investment environment (reduced corruption, improved trade, more favorable taxation policies, etc). These should encourage foreign direct investment from traditional trading partners.

On the public expenditure side:

- Once substantial restructuring of public agricultural institutions has occurred, increased budgetary support for advisory services (some privately provided), applied research and farm extension (again, some privately provided). Donor efforts have begun to build extension expertise in the private sector, the key problem is to attain financial sustainability of these services;
- Continued efforts to rehabilitate irrigation infrastructure in a manner that is economically justified and financially sustainable; continued improvement of financial sustainability by shifting management responsibilities to Water User Associations; and improved cost recovery.

7. *Improvements in marketing will be the critical factor linking demand for agricultural output with farmers.* At present, the domestic markets are high cost, risky, and poorly integrated. Marketing performance can be improved by removing policy and regulatory constraints on market development and by improving local infrastructure, marketing organizations, information and quality standards. Required changes include:

On the policy side:

- Change in tax policies, especially elimination of VAT, which reduces incentives for market entry and limits investment at different levels of the marketing chain;
- Improved financial sector policies (collateral legislation and contract enforcement, supervision framework for credit unions);
- Reduction in administrative barriers impeding private sector activity.

On the public expenditure side:

- Improved rural infrastructure such as rural roads, water supply and sanitation, telecommunications, and electricity; and
- Improved “soft” marketing infrastructure necessary for development of private markets. Examples include establishment and dissemination of agricultural grades and standards; establishment of effective contract enforcement and dispute resolution mechanisms; a supportive legal framework for marketing associations; and market information.

8. *Continued emphasis on policy and investment support to peasant farmers.* Peasant farms have been the engine of agricultural growth since 1995 and with a supportive policy and public investment environment their contribution can increase. Future growth and poverty reduction therefore depends on the ability of policymakers to develop public strategies and institutions that recognize and effectively address the constraints faced by them in their specific production and marketing environments.

9. *The situation of the poorest rural households requires special consideration.* Unlike peasant farms, poorer agricultural households are divesting agricultural assets. The poorest 20% of rural households have a heavier dependence on non-farm employment, and depend on food market purchases. Stimulation of agricultural growth will help these less viable farm households by generating employment opportunities that induce wage increases in the rural non-farm economy. Agricultural growth also has the potential to lower food prices, which is a direct benefit to households that rely on market food purchases. Additional measures may be necessary to support the lowest income group, including supply side measures for an active non-farm economy (small business support, vocational training and active labor market measures, micro finance). While an important conclusion of this study is the extent to which agricultural growth can reduce poverty, it should be recognized that some poor households need additional targeted social support, an important subject but one separate from this study.

Public expenditure challenges

10. Looking ahead, the nature of future public support for the agriculture sector has become a critical issue for policy and program formulation. Recurrent cost liabilities of the current public expenditure programs in agriculture are growing faster than government’s revenue mobilization and therefore greater sustainability of public expenditure in agriculture will derive from activities that support private sector growth and its paying capacity.

11. *Current level of public expenditure associated with rural and agricultural development should not decline in relative terms, but should only increase in line with substantial restructuring of agricultural policy and public agricultural institutions.* Direct public expenditure from the MAWRPI budget and the Public Investment Program (PIP) are the major sources of public support for agriculture. In 2003 agricultural public expenditure represented about 6% of agricultural GDP. According to comparable international experience this represents an acceptable level of expenditure although this figure is on the lower side of the range.

12. The path to fiscal sustainability lies ultimately with measures to increase private sector service delivery and cost recovery and this capacity will take time to grow. Sustainable public expenditure is thus a medium-term objective, to be pursued in parallel with continued sector growth and poverty reduction. However some of the measures aimed at better efficiency of public expenditure can and should be achieved in the short to medium-term.

13. *Improved allocation and efficiency of public expenditure can be achieved by a combination of short and medium-term measures.* Short term measures include strengthening the focus of the Ministry of Agriculture on essential public services (animal health, plant protection, phytosanitary control, inspection etc) and privatization of livestock breeding, fish farming enterprises, seed production and multiplication, and state farms; and the transfer of responsibility for the hippodrome together with much of the veterinary services to local government.

14. Similarly, measures to improve efficiency within the MAWRI and reform the current system for allocating budget resources should also be pursued, even though the additional resources released are unlikely to be large in absolute terms. Further increases in the current budget should be accompanied by improvements in human capacity and institutional re-organization. Re-organization of the MAWRPI, based on proposals by the EC Food Security Program, should be the starting point. Three activities are important in this context:

- establishment of budget processes to ensure linkages between sector priorities and allocations;
- elimination of duplicative administrative roles, and enforcement of a rule that all payments for public services be made in cash;
- continued staff training to improve efficiency as ministry staff adjust to their new roles and responsibilities

15. *As most of the larger components of the current Public Investment Program (PIP) are coming to an end, now is the time to change the focus of the PIP portfolio for agriculture for 2005-2010.* Several new themes should predominate in the PIP agricultural program for 2005-2010: market development aimed at extending outreach to peasant farmers, technology transfer to the same farmers, continued irrigation rehabilitation, complementary rural infrastructure investment, and rural finance.

16. *Creation of additional fiscal space is necessary to enable effective public support to agriculture and rural development.* Increased user fees for irrigation should be a key element of future policy reform. Members of Water User Associations (WUA) themselves acknowledge the rationale for this and are willing to accept higher fees in return for improved water management and delivery. The new draft Water Code, currently under consideration by Parliament, should be passed as quickly as possible. This legislation provides a legal basis for future cost recovery, and will help to build agreement for reform between farmers and government, while furthering the transfer of responsibility for operations and maintenance to the private sector over the longer term. A second step after passage of the Code is the establishment of a program for phased increase in water fees, with preparation of a new, higher fee schedule and implementation of the schedule as a matter of priority. Finally, steps should be taken to accelerate the establishment of Water User Associations and the transfer of irrigation assets and management responsibility to them. Over the longer term, as these associations are able to manage larger areas and more complex systems, the Department of

Water Resources can shift management responsibility for higher level irrigation systems to WUAs.

17. The agriculture sector is lightly taxed although it receives substantial budgetary transfers. Land taxes are levied but not properly collected, farm inputs are exempt from VAT, and widespread smuggling allows farmers to avoid import taxes on farm inputs. Medium and large agro-business and agro-processing enterprises are subject to high taxation, however, which constrains the growth of commercial agriculture. VAT is inhibiting commercial market activity and driving small rural enterprises into the informal sector at a time when they should be expanding and seeking access to formal markets for capital and new technology. While higher tax contributions by agriculture are warranted, the challenge is to find the most appropriate form of taxation. Disincentives for small and medium size farms and agri-business enterprises to expand and engage in the formal economy must be minimized. In this context a modest land tax may be an alternative to the revised VAT. Efforts should be made under the current fiscal decentralization to ensure that local governments receive an adequate share of local taxes.

18. *Shift to program lending over time.* A program lending approach should be considered by government and donors for the future. This would provide a consistent framework for Government co-ordination of donor activities, while providing adequate resources and incentives to move public agricultural expenditure to a more sustainable foundation.

Further work required

19. A number of follow-up analytical activities are needed to clarify the options for future public expenditure in agricultural and rural development:

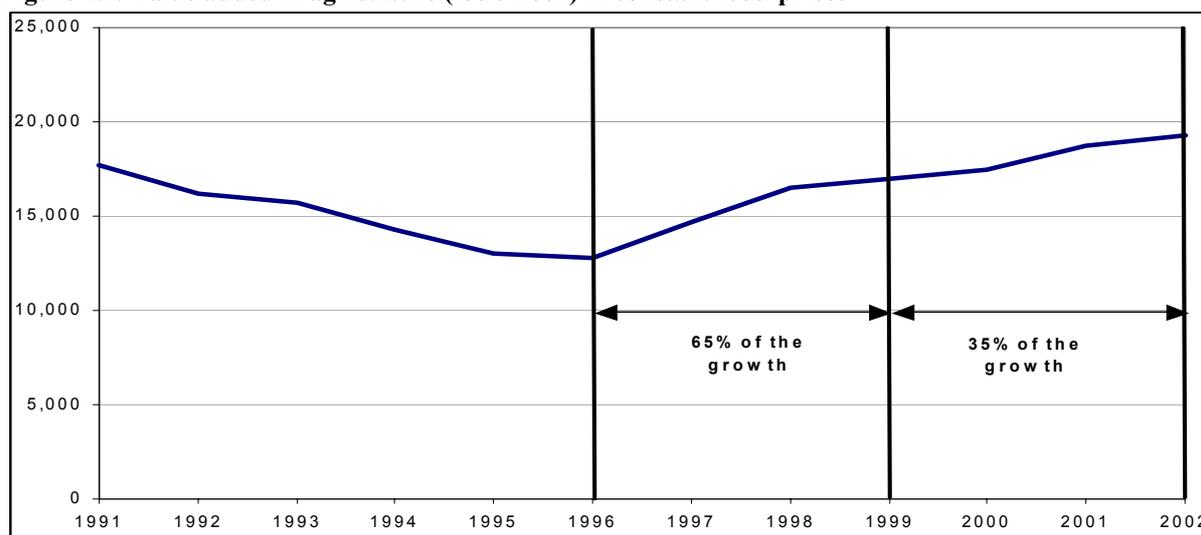
- Follow up analytical work on the costs and benefits of public support for agricultural marketing and technology transfer, with clear definition of public and private sector roles and consideration of possibilities for private service provision and cost recovery, based on experience with donor funded programs.
- Follow up work on rural infrastructure needs and assessment of local government and community capacity for planning, financing, operation and maintenance of infrastructure in a manner that advances the economic and social priorities of village inhabitants. The experience of the Bank-funded Village Investment Project should be drawn upon for this assessment.
- During the discussions of the final draft of this report, several themes were highlighted as the ones requiring more detailed treatment. These themes included restructuring of the current farm debt; degradation of arable land; agricultural machinery; and the extent of external trade barriers. All of these important topics require a focused technical input; however, their detailed treatment is outside of the scope of this report.

Chapter 1. Introduction: agricultural performance and policy

Agriculture sector performance

1.1 Kyrgyzstan's agricultural reforms and subsequent agriculture growth present an unusual success story among transition economies. The country outperformed its Central Asian neighbors - indeed all countries within the FSU – during the first decade of transition, whether measured in terms of gross agricultural output growth, augmentation of labor productivity, or increases in agricultural crop yields.¹ The early phase of agriculture sector transition was nonetheless traumatic. Value added plummeted during the first half of the decade, falling to three-quarters of 1990 levels by 1995 (Figure 1.1). This situation was reversed after 1996. Growth resumed and sector output surpassed 1990 levels by the end of 2001. Although the highest growth rates were achieved during this initial recovery period with annual rates of over 20 percent, growth from 1999-2002 continued at the still impressive rate of 5 percent per annum. Recovery has also been robust, and even the 1998 Russia crisis, which significantly reduced exports, did not reverse the upward trend. It is significant that from 1998 onwards, sector growth was accompanied by an accelerating reduction in rural poverty, an issue discussed in more detail in Chapter 3 (and illustrated in Table 3.1).

Figure 1.1. Value added in agriculture (1990-2002) in constant 1999 prices



Source: NSC

1.2 Policymakers are nonetheless concerned about future growth prospects for agriculture and the rural economy as a whole. In response, this study takes stock of agricultural performance during the transition, assesses past sources of growth, and outlines future growth opportunities and constraints. The objective is to clarify policy and public expenditure priorities for sustained pro-poor growth.

¹ J. Swinnen and S. Rozelle 2004 *Success and Failure of Reform: Insights from the Transition of Agriculture* forthcoming, JEL (draft)

Agriculture and the macroeconomy

1.3 Agriculture is critical to *overall* economic growth and employment in Kyrgyzstan. As the largest economic sector, with 36% of GDP in 2002, it provides a significant direct boost to the economy when it grows². Production and consumption linkages exert additional effects on GDP growth. Experience from other countries with large agriculture sectors indicates that agricultural growth multipliers can be significant, with every dollar of agricultural income generating two additional dollars of income. Kyrgyzstan's structural features are conducive to such multipliers: agriculture is the leading export sector, providing financing for intermediate imported inputs used in other sectors; it provides low priced food that sustains urban wage earners' purchasing power (food accounts for about 50% of urban expenditures) and keeps the non-farm economy competitive; and the sector provides inputs for enterprises that process food, feed and fiber.

1.4 On-farm growth can also significantly increase demand for non-farm goods and services, stimulating rural non-farm growth and employment (empirical verification for this effect in Kyrgyzstan is provided in chapter 3). As the sector develops and farm households diversify their incomes, it will ultimately provide labor for non-farm businesses in both rural and urban areas. Agriculture accounted for over half of the country's total employment in 2002, up from one-third in 1990. An important challenge on the horizon is the extent to which the sector can generate productive employment for the large number of people now depending on it.

1.5 The health of the macro-economy also has implications for the health of agriculture. A key issue is the sustainability of public expenditures related to the sector. The fiscal space for public expenditures is highly constrained in the medium-term due to Kyrgyzstan's small economy and weak tax base. Public expenditure programs will thus continue to rely heavily on donor-funded public investment and budgetary support. High levels of donor funding not only increase external public debt, but also create a dependence on donor budget support to meet recurrent costs. Recognizing these problems, the IMF has introduced a debt reduction strategy, the main elements of which include lower public borrowing, measures to increase tax revenues, and debt rescheduling.

1.6 Concomitant with policies to reduce external debt and improve the sustainability of public expenditure programs, government has adopted a National Poverty Reduction Strategy (NPRS) for 2003-2006. Targets for the NPRS include 5% annual GDP growth, and a cumulative reduction of one million poor, without increasing income inequality. It will not be easy to reconcile these objectives with the need for higher taxes and lower levels of donor funded public expenditure. Since GDP growth and increased tax revenue will only allow a modest expansion of public expenditures, continued donor support will still be essential, although at lower levels. This report therefore identifies types of public expenditure likely to have a high payoff in terms of sector growth and poverty reduction within the expected tight budget envelope.

Agricultural policy reforms

Wide-ranging sectoral reforms occurred during the 1990s. The acceleration of these reforms, beginning in 1995, is closely associated with strong, sustained agricultural growth.

² The impact of agricultural sector growth = GDP Share x growth rate.

1.7 *Land reform.* Acceleration of the Kyrgyz land reform program was the single most important policy change during the mid-1990s. Although many trade and price policy reforms occurred in the first half of the 1990s, most state land was distributed between 1995 and 2000. By 2002, the transfer from state farms and agricultural cooperatives to peasant farmers was largely complete. Approximately 25% of arable land remains available for allocation to farmers; it is currently held in the Land Redistribution Fund (LRF), which is administered by the local self-governments, and in a number of state farms - mostly seed and livestock breeding farms concentrated in the North.

1.8 *Land markets.* Since September 2001, when a moratorium on the sales of land was lifted, a total of 1,043 transactions were completed, with the average traded amount slightly over 2 hectares. Detailed regional review of some transactions revealed, however, that most of such were motivated by economic distress and followed by emigration. While a number of expected improvements in land market legislation will have a positive impact on the land markets, an increase in the number and volume of land sale/purchase transaction will be limited.³ As most land owning households are still reluctant to either sell or lease their land because of limited non-agricultural employment opportunities, the Land Redistribution Fund and privatization of remaining large agricultural enterprises will play the major role in providing additional land for expansion of production by private farms.

1.9 *Irrigation.* Irrigation is critical to crop production, with over two-thirds of arable land dependent on irrigation systems. Significant donor-supported investments during the latter part of 1990s helped to rehabilitate parts of the aging and poorly maintained infrastructure. Reform of the old state-run system began tentatively with the 1994 Law on Water. Since then, there has been moderate progress in improving the original law, restructuring state irrigation institutions, and creating a new legal foundation for farmer-managed water user associations. Efforts continue, with two recent draft initiatives intended to redefine the institutional framework for irrigation system management (including long-term contractual relations), accelerate cost recovery, and clarify the rights and responsibilities of Water User Associations.

1.10 *Prices, marketing, trade and taxes.* Agricultural prices and marketing were largely liberalized in the early 1990s, and budgetary subsidies have fallen over time. The major remaining policy-related distortions relate to water pricing and tax policy. Subsidies continue on irrigation water and are thought to have a significant effect on the production mix.⁴ Most farming entities are lightly taxed. Unified land taxes were introduced in 1997 and are reviewed on an annual basis. Medium and large agri-business and agro-processing enterprises, however are subject to enterprise taxation. Recent decrees levied VAT on more of these enterprises.

1.11 *Rural finance.* A large number of non-bank financial institutions have emerged since 1997. These provide most of the credit to agriculture, and their agricultural portfolios continue to expand following the enactment of defining legislation in 1999 and 2002. Many of these institutions are regarded as success stories in the region. Among them are the Financial Fund “Bai Tushum” and the Kyrgyz Agricultural Finance Corporation, which primarily lend to agriculture, however their ability to expand their operations will depend on

³ Gosregister is currently working on a legislation, which will remove many restrictions on the supply of land. According to a recent study conducted by the USAID legal land market restrictions are not perceived as major concern by the potential landowners.

⁴ Below-cost prices are also set for power and rail transport services, which potentially affects agricultural production, marketing and agribusiness incentives.

their ability to access additional capital. Credit to agriculture from the banking sector is much smaller and is only provided by a few commercial banks. The expansion of lending to agriculture from the banking system is complicated by the massive default on agriculture loans made during 1992-1996 by AgroPromBank, the Ministry of Agriculture, and several commercial banks. Government has nonetheless played a constructive role in improving the legal framework for private lending, including a newly proposed Pledge Law that will improve the incentives for use of real estate and moveable assets as collateral.

1.12 *Support Services.* Several critically needed private sector-based support services have been established to assist the new farmers, and these should be taken into account in any Government program to improve agricultural support services. This includes the Rural Advisory Service (RAS) a private sector group that provides extension advice to farmers and farmer groups, and the Kyrgyz Agricultural Market Information Service (KAMIS), also private, which collects and disseminates market price information on a wide variety of farm products and inputs countrywide. In addition, while many input concerns have been privatized, regulatory constraints limit market entry. For example, the seed industry has been privatized but entry of new varieties is limited by overly restrictive restraints on registration of new varieties. Less success has been achieved so far in fertilizer and machinery service reforms, where privatization is not complete, and farmer demand is far from satisfied.

1.13 Despite the progress made with reform, there is still a significant unfinished agenda. Completion of this agenda will provide the basis for continued growth. The main priorities are to complete the land reform and to take decisive steps to increase cost-recovery in the irrigation sector within a credible medium and long term framework for public investment and public expenditure management.

1.14 The following chapter describes the structural changes that have occurred in agriculture and in rural households since 1995, the sources of agricultural growth, and constraints to future growth. Chapter 3 discusses agriculture in the broader context of rural household incomes and livelihoods. The final chapter identifies policies and sector strategies conducive to pro-poor growth, and evaluates the role of public expenditures in advancing the growth agenda.

Chapter 2. Structural changes and sources of agricultural growth

2.1 Growth since 1996 is explained on the supply side by rapid changes in asset ownership and farm structure, increased commercialization by small farmers, yield improvements, and changes in the production commodity mix. On the demand side international/regional prices increases are found to be crucial to post 1996 growth. There is significant scope for increased farm productivity, but this can only come about through concerted efforts to raise farm gate prices through improved agricultural marketing (increased market access for smaller farmers, reduced marketing system costs), and on-farm technical innovation. The Government has an important role to play in facilitating these changes through support for public goods in agriculture. These are described in more detail in Chapter 4.

Agricultural transformation in Kyrgyzstan

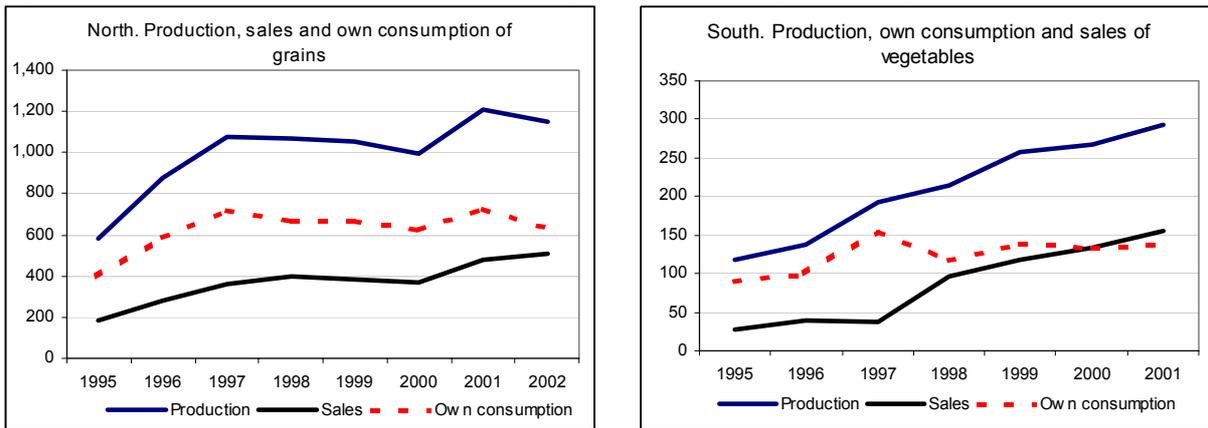
2.2 *Two subperiods, two responses.* The recent growth in agriculture output can be attributed to two distinct behavioral responses to the post-1995 land privatization and acceleration of policy reforms. The first is the need for rural households to meet their subsistence food needs. The second is a more market-oriented response to economic incentives arising from sector reforms.

2.3 *Recovery period (1996-1999): predominance of basic needs.* In the recovery period (1995-98) farm households were oriented towards increasing food crop production⁵. This was a reflection of the high proportion of food deficit poor in rural communities. Change in cropping patterns toward traditional food crops and an increase in household subsistence orientation exemplify the dominance of the basic needs effect. The main adjustment in cropping areas took place after 1995, during the initial recovery period. Expansion of food crop area was rapid during 1995-1998 and continued, but at a lower pace, during the subsequent three years. Growth in food crop area was more pronounced in the South where the majority of the rural poor reside. In contrast, expansion of traditional cash crops has been spread more evenly over the whole transition period for both North and South regions.

2.4 *From subsistence to commercialization (1999-2002): post-recovery.* Starting in 1995, the sale of crop and livestock products increased quite dramatically in absolute terms, with the volume of sales for many products substantially exceeding their pre-independence levels. However growth of on-farm consumption largely exceeded growth in sales volume during the recovery period, while the subsequent post-recovery period witnessed the reversal of this trend with sales growing faster than on-farm consumption. Figure 2.1 below demonstrates this with examples of production and sales of grains in the North, and vegetables in the South.

⁵ (Staple) food crops are defined as wheat, rice, potatoes, and vegetables. Cash crops included cotton, sugar beets, tobacco, oilcrops, melons, fruits and grapes.

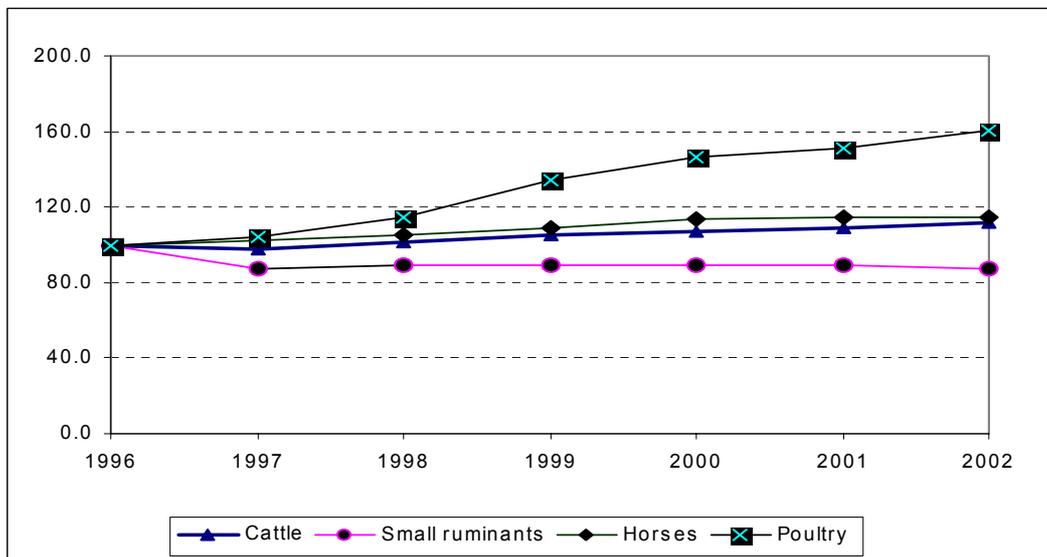
Figure 2.1 Production, sales and on-farm consumption of selected agricultural products (in thousand tons)



Source: NSC

2.5 The impact of market reform became more apparent during the post-recovery period (1999-2002) as farmers increased their tradable surpluses and shifted towards livestock production, which is a more commercial activity. For many commodities sales growth has even exceeded the increase in production. As expected, the expansion of sales was greater for commodities with higher income elasticity such as livestock products, fruits and vegetables, as incomes rose and these commodities increasingly found their way to urban consumers. The South, with its substantial cotton and tobacco production, contributed most to total agricultural sales, although the rate of growth and changing pattern in the two periods has been similar for both regions.

Figure 2.2. Changes in the selected types of aggregate livestock holdings



Source: NSC

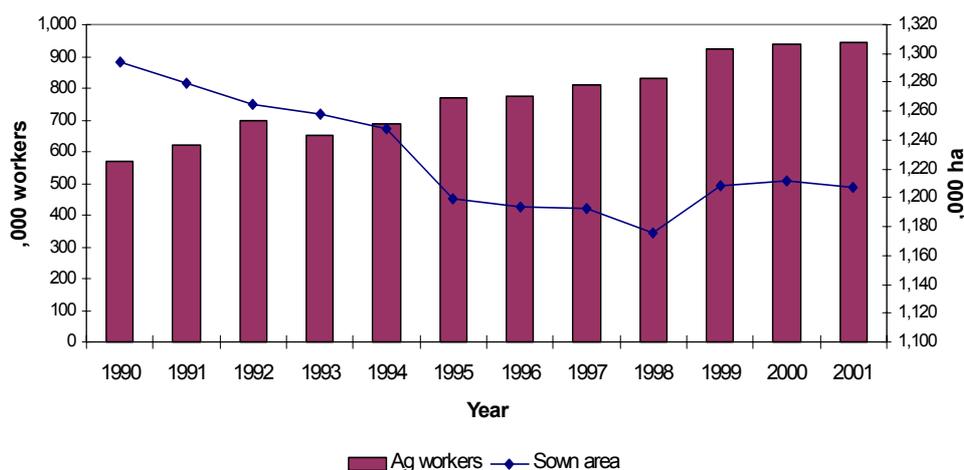
2.6 *Crop and livestock production.* Both crop and livestock production have grown steadily since 1995, but growth in livestock production has lagged behind crop output increases. Most livestock growth took place during the post-recovery period⁶. Livestock numbers bottomed out in 1995-1998, followed by modest growth in numbers during the post-recovery period (1999-2002). Figure 2.2 above portrays the changes in livestock numbers for the post-1995 period, as a percentage of their 1995 levels.

2.7 *Food security.* The rapid increase in food production and consumption during the early years of growth significantly increased household food security. Average calorie intake for rural households reached the minimum physical norms by 2002, which is a noteworthy achievement in itself. Food security must nonetheless retained an important place in the Government's development agenda since the gap between urban and rural calorie intake is still marked, and there is substantial regional variation in rural food consumption.

Sectoral productivity

2.8 *Post-1996 production increases were accompanied by increases in land and labor productivity.* Agricultural value added increased steadily over the period as the sown area of land fell, leading to substantial improvements in land productivity. Labor in agriculture increased, but value added growth was even higher, so labor productivity increased as well.

Figure 2.3 Sown (arable) area has fallen since 1990 as the agricultural work force has risen steadily



2.9 The downward trend in sown arable land since 1990 is apparent in Table 2.3. By 2001 it was about 8% lower than at the beginning of transition. Labor in agriculture has, by contrast, increased over the period due to an influx of labor from privatized industrial firms during the 1990s. The combined result of these trends is that land is becoming even more scarce in relation to the agricultural work force: arable land per worker has decreased steadily since 1990. In 2002, land per worker was 1.16 ha, 25% below 1995 levels and 53% below 1990 levels. This very high labor/land ratio – which will still be high if labor migrates to other sectors - is thus a major challenge to crop production.

⁶ With the exception of horses while the decline in numbers of small ruminants slowed down considerably in the second period.

2.10 Land productivity increases have been higher and more consistent than increases in labor productivity.⁷ Land productivity surpassed 1990 levels in 1997, while labor productivity is still 27% lower than in 1990, but higher than 1995 levels (by 35%). Labor productivity is an important indicator of income earning capacity, It can only increase in the future via substantial yield improvements for crops and livestock.

2.11 Regional composition of agricultural growth⁸. Regional differences are attributable to differences in initial endowments and specialization. While the North has made a greater contribution to overall agricultural growth (Table 2.5), most of its growth occurred during the recovery period. The South continued to grow in the second period and became the larger contributor to sector growth. To understand the different regional contributions to sector growth it is also useful to look at the separate contributions of crops and livestock (Figure 2.6).

Figure 2.4: Arable land productivity has increased steadily since 1995, while labor productivity growth has lagged (Som in 2002 prices)

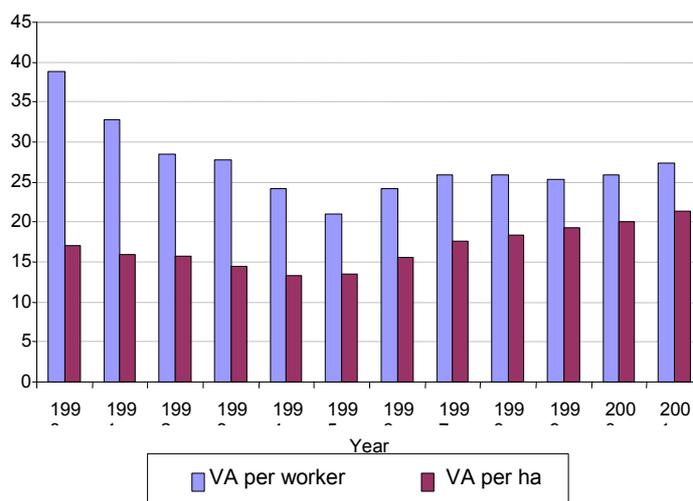


Figure 2.5 Regional contribution to the output growth

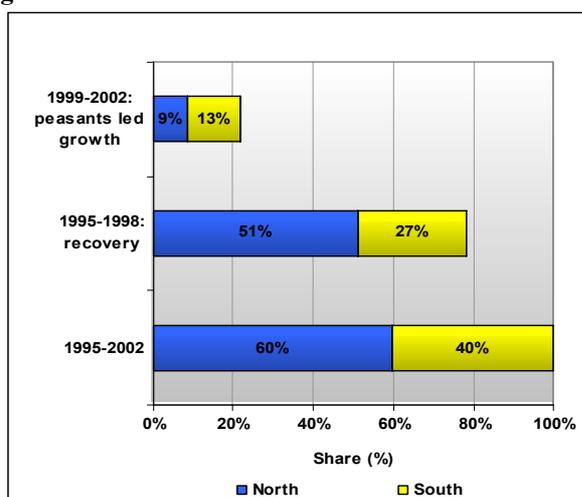
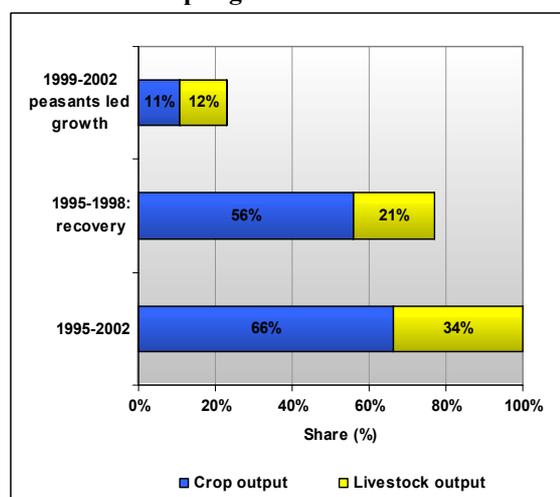


Figure 2.6 Contribution of crop and livestock production to output growth



2.12 Crop growth dominated the recovery period with a 56% contribution to 1995-2002, versus 21% for livestock. By contrast, in the post-recovery period, during which average yearly sector growth was lower but still strong (5% per year), livestock contributed slightly more than crops (12% versus 11%). This pattern illustrates the subsistence orientation of rural households during the first subperiod, when newly privatized holdings gave priority to

⁷ Because of data constraints the study did not look at pasture lands as well as shifts between irrigated and rain-fed arable lands.

⁸ A description of the methodology for calculation of the composition of the agricultural growth is contained in the Annex. These calculations are based on computation of the value of agricultural output, which represented approximately 90% of the value of agricultural output in 1995.

production of staple foods. It also supports the hypothesis of more commercial behavior in the second period, when household food security was more assured and the commercially oriented livestock subsector became more active.

Figure 2.7 Crop/livestock contributions in the North

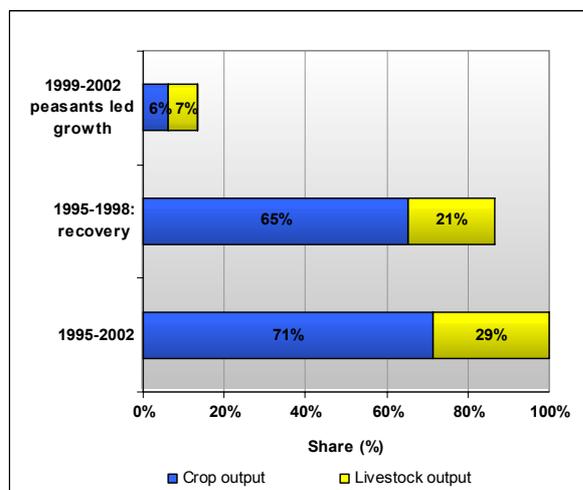
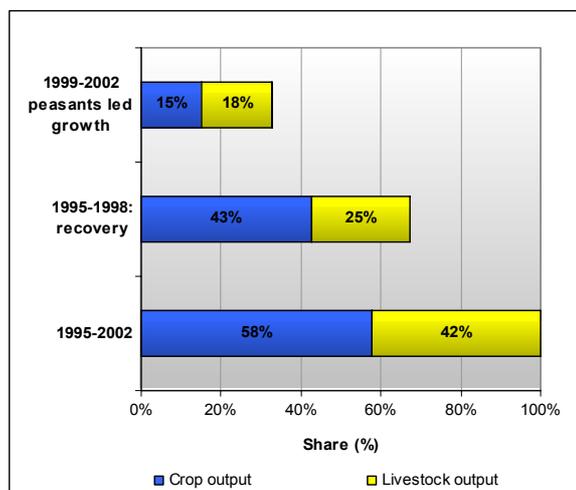


Figure 2.8 Crop/livestock contributions in the South



2.13 Similar general patterns apply in the North and South (Figure 2.7 and 2.8) although some differences are evident. An even greater share of growth took place in the recovery period in the North, and crops assumed more importance in this subperiod and in 1995-2002 as a whole. Thus, although the North’s general pace of agricultural growth from 1995-2002 was similar to that in the South, more of its growth occurred in the recovery period. When the growth of subsistence production subsided in the second period, the underlying commercial dynamic appears to have been weaker than in the South. The following section examines in more detail the causes and sources of growth in each period.

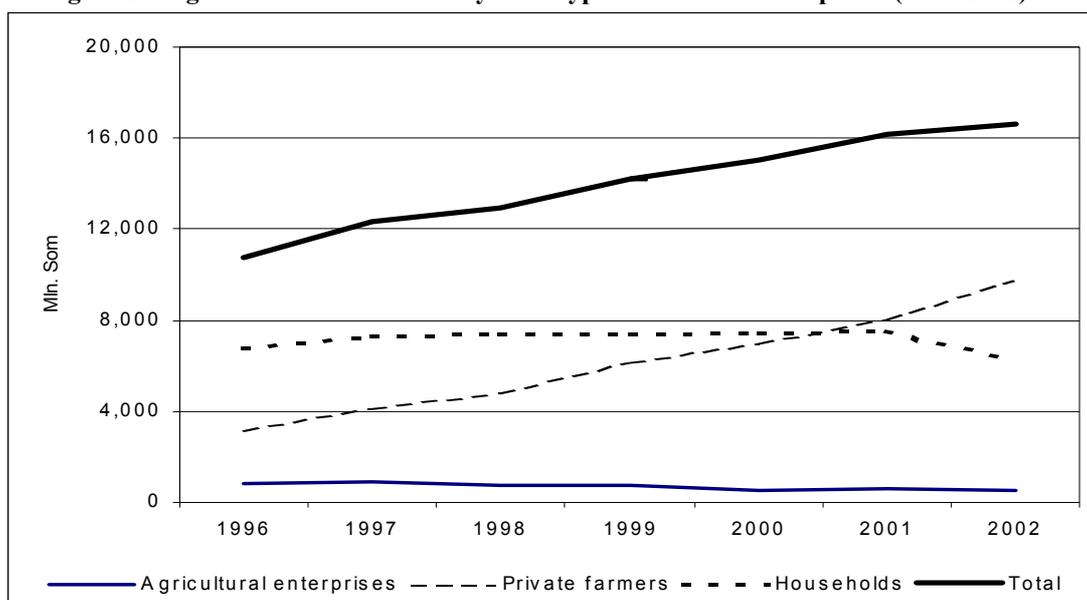
Changes in the market shares and agricultural asset ownership by different farm types

2.14 *Private farms have emerged as the driving force behind Kyrgyzstan’s agricultural transformation.* Agricultural performance reflects significant changes in farm structure. The respective shares of different farm types in agricultural value added from 1996-2002 are presented in Figure 2.9 below. Private or (“peasant”) farms have been the main driver of agricultural GDP growth, growing at 20% per annum on average, which significantly exceeds the average agricultural GDP growth rate of 6% for this period. In contrast, the contribution of household plots has been declining for the most of this period. Finally, the value added of larger agricultural enterprises, a significant portion of which remained state-owned, declined over the entire period and accounted for only 3% of agricultural value added in 2002.

2.15 This structural shift in the composition of agricultural value added has been driven by land and farm privatization reforms. The reforms, first initiated in 1992 but accelerating in 1994, led to an increased land share for private farms, at the expense of former state and collective farms. By 2002, private farms operated 71% of all agricultural land, with agricultural enterprises and household plots accounting for the rest (13% and 5%, respectively).⁹ Arable land owned by farm households increased by about a third in the early years of independence and has not changed significantly since 1995. Table 2.1 presents the main characteristics of each of these farm types.

⁹ Excluding the 11% of land held by ail okmotus – also see next footnote below

Figure 2.9 Agricultural value added by farm types in constant 1996 prices (1996-2002)



Source: NSC

2.16 *Expansion of private farm size through land leasing.* The ability of private farmers to further expand their farm holdings will depend heavily on progress in liquidating Kyrgyzstan's remaining state and collective agricultural enterprises. The arable land area allocated to household plots is expected to remain constant or fall slightly, as the recent land census (2002) revealed a tendency for plots to segment, and for house and farm structures to be built in household backyards, encroaching on the area of household plots. Private farms now operate 71% of total arable land, and are becoming more efficient agricultural producers, and are beginning to close the labor productivity gap with household plots, providing a strong foundation for future growth.

2.17 At the national level, leased land accounts for about one fifth of the operational land holdings of private farms, accounting for more than three quarters of all officially recorded leases¹⁰. The average area of leased land is about 20 hectares, which suggests that the land is predominantly leased by a small number of larger peasant farms (leasing of smaller tracts of land may also be either too costly or unregistered¹¹).

2.18 *Accumulation of livestock assets by private farms.* During 1995-96, farm households led the acquisition of livestock from the fading state and collective farms. Regionally, the pace of this transfer was slower in the South, as substantial numbers of livestock (cows and sheep) were kept by households even before independence. However, over the past four years there has been a significant shift of livestock ownership from households to private farmers through market channels. As a result, in 2002 private farmers held about half of all livestock. Household survey data indicate that this tendency has been particularly prominent in the South.¹²

¹⁰ The main source of land lease is the land redistribution fund managed by ayil okmotus, village self-governments.

¹¹ Available data from the survey of private farms and household budgets do not contain conclusive evidence about the extent of informal land lease market. The format of the survey questionnaire did not contain the level of detail necessary for greater scrutiny of informal land leases.

¹² Household Budget Survey, NSC

Table 2.1. Main characteristics of the farm types

Farming category	Household plots	Private farmers	Agricultural enterprises
Brief description	A subsidiary household plot. Traditionally, such plots were allocated by the state for all rural and limited number of urban households for construction of dwellings and supplementary source of food production. Producer of about half of the total value of livestock products and over a quarter of the value of crop output. Traditionally a major producer of vegetables and potatoes with a modest share in production of grains and fodder. A relatively uniform land distribution across all oblasts.	New structure based on family labor on owned or leased land. As of 2002 leading producer and seller of both the food and technical crops. Jointly with households own most of the national livestock holdings. Size distribution varies greatly with larger concentration towards the lower range (0.5 - 5 hectares).	A greater spectrum of forms and types predominantly based on the state or collective ownership of assets including land. Includes state enterprises, collectives, private units and subsidiary farms of other organizations. Most of these enterprises located in the North. Predominantly engaged in low value agriculture activities i.e. grains and fodder crops, however with considerably large areas under technical crops.
Number	881,713	251,526	1,326
Average size of arable land holdings in hectares	0.1	3.8	222
Share of total arable land in 2002	5%	71%	13% ¹³
Share of employment in agriculture in 2002	35% ¹⁴	52%	13%
Share in agricultural value added in 2002	38%	59%	3%
Agriculture value added per hectare in 2002 (Som)	119,028	17,201	2,923
Agriculture value added per worker in 2002 (Som)	40,434	28,523	5,146

Source: NSC 2003.

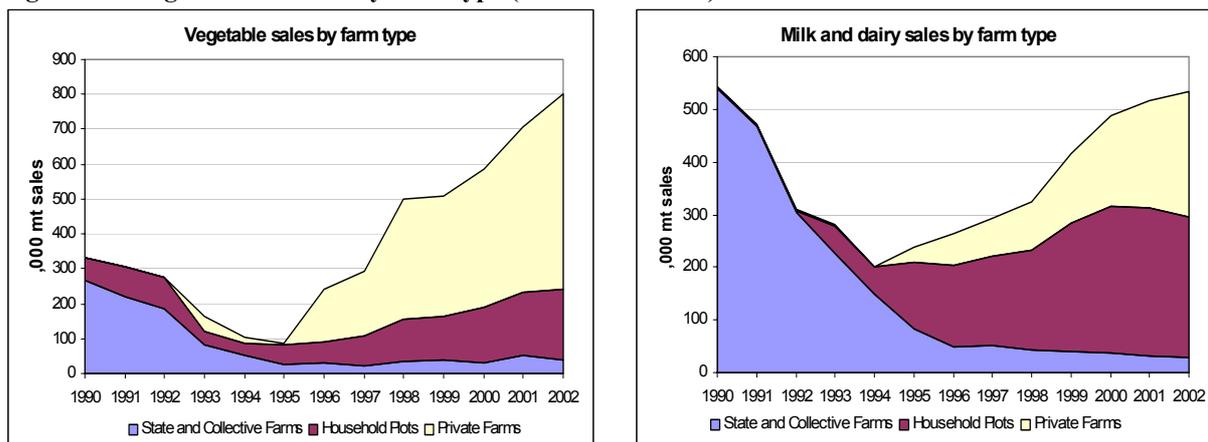
2.19 *Increases in private farmers commercial surplus.* In response to the abrupt reduction in agricultural sales by collective farms during the early years of independence, household plots dramatically increased their sales of livestock and crop products. Although they started from very low levels of commercial surplus (almost zero for milk and about 20% for meat), household plots managed to gain a strong foothold in the domestic food market. Private farmers have nonetheless overtaken household plots as the chief contributor to agricultural surplus. These dynamics are portrayed in the diagrams in Figure 2.10, using the examples of vegetables and milk.

2.20 Household plot sales continued to grow rapidly until about 1998 when they were confronted by increased competition from private farmers. During 2001 – 2002 households lost their dominant position on domestic markets to private farmers. Farm survey data indicate that private farms have intensified their use of commercial inputs and have begun to close crop and livestock yield gaps with household plots. It is important to emphasize that the contribution of *large agricultural enterprises* to the marketed surplus has diminished over time as they have shed assets and become increasingly unable to compete. This reduction is most evident in the case of traditional cash crops and grains, which now feature prominently in the production and sales mix of private farmers.

¹³ Excluding about 11% of land managed by ail okmotus (Land Redistribution Fund)

¹⁴ According to the NSC methodology of recording employment, only those households who spent more than the predetermined number of hours per week on household plot cultivation were considered as employed on household plots and therefore this underestimates the total amount of labor spent on gardening household plots. However for the purposes of comparing employment patterns across the farming categories this bias was deemed acceptable.

Figure 2.10. Agricultural sales by farm type (in thousand tons)



Source: NSC

2.21 *Wage-employment in agriculture is still limited, and concentrated among large agricultural enterprises.* Due to data limitations it is difficult to draw inferences about employment dynamics by farm type, either agricultural or non-farm. A snapshot of the distribution of agricultural labor by farm type in the fourth quarter of 2002 (Table 2.1) indicates that private farms provide half of total agricultural employment, mostly in the form of family labor. Household plots provide another 35% of total agricultural employment, largely as self-employment. *All of the wage-earning agricultural employment, or about 14% of total agricultural employment, takes place among agricultural enterprises.*

2.22 *Future growth and expansion of private farms will come at the expense of agricultural enterprises and (to a lesser extent) household plots.* Private farms can be expected to continue exploiting the inefficiencies and constraints faced by other farm types. For household plots the main constraints include access to arable land and pastures, diminishing livestock numbers, and limited investment capacity due to their low income level and basic needs orientation. Large agricultural enterprises are less productive and less diversified, and have little cash for investment as a result of their diminishing share in the domestic food market.

Sources of growth and constraints on future growth

2.23 *Private farms have been a remarkable growth engine – the shift toward a market economy in agriculture, while it is still ongoing, has been unusually rapid.* The previous section describes a post-1995 pattern of land and livestock transfer to private farms, and further accumulation through market transfers, that was accompanied by integration of these smaller farms into commodity markets. This allowed farmers to generate initial streams of income from their assets. A key question that remains is whether this growth can be sustained in the future, and if so, what steps can be taken by government to remove obstacles to growth led by small private family farms. While growth in the past has been impressive, one can reasonably ask whether the pace will continue. We approach this question by analyzing past sources of growth in agriculture, and the implications for future growth.

2.24 *Prices drove most of the increase in livestock value, while yield improvements - and secondarily price increases - had the greatest effect on crop growth.* Price was the dominant growth contributor for livestock in both North and South (Figures 2.10b and 2.11b). The decline in aggregate livestock yields during the post recovery period in the North is striking. By contrast, during the recovery period, yields made a positive but small contribution in the

North. Improvements in yields had a significant impact on livestock growth in the South in the post-recovery period. The general tendency for crop growth to be driven primarily by yields and prices, and livestock growth by prices is also illustrated in the more disaggregated data presented in the Annex (Table A.1). Looking at changes in average crop indicators between 1995 and 2002, average crop yield and output changes are three to four time those for livestock, while livestock price increases have exceeded increases for crops by 50%.

Figure 2.11a Sources of crop growth in the North

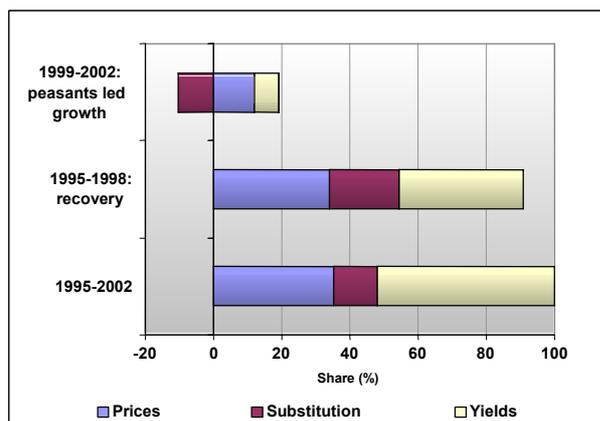
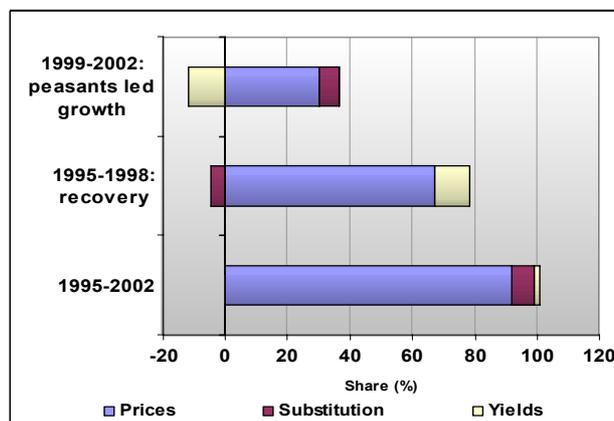


Figure 2.11b Sources of livestock growth in the North



Source: World Bank calculations based on official data

Figure 2.12a Sources of crop growth in the South

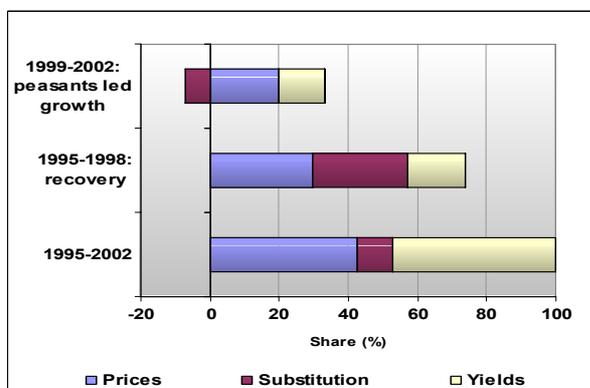
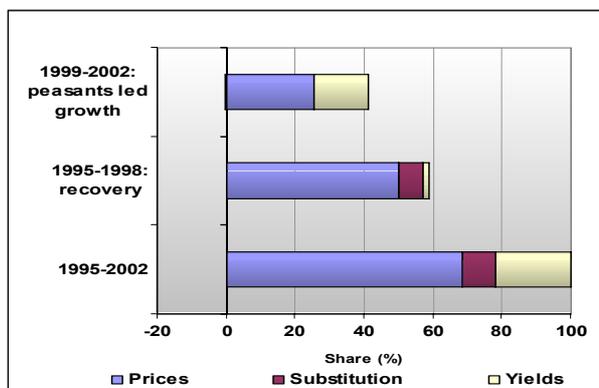


Figure 2.12b Sources of livestock growth in the South



Source: World Bank calculations based on official data

2.25 Inefficient use of land by large agricultural enterprises hampered growth in the second period, especially in the North. Increased crop yields were a major source of growth in both regions (Figures 2.12a and 2.13a). However crop growth in both North and South shows a more balanced contribution between yield, price and commodity substitution in the recovery period, while price and yield had roughly equal contributions in the second period. A worrying tendency, common to both regions, is the negative commodity substitution effect during the second period, which represents a decline in sown areas. This is consistent with the continued operation of unprofitable large agricultural enterprises on a still sizable share of total arable land. Although increases in yields by peasant farmers were sufficient to compensate for the inefficiencies of large agricultural enterprises, the lack of restructuring in the latter clearly represents a missed opportunity for growth.

2.26 A more detailed regional review of land use (Table 2.2) reveals that most of the unused arable land is located in the North, with Chui Oblast alone responsible for more than a third of total unused arable land. While some is owned by absentee owners who have left the country, the first agricultural census (2002) indicates that most of the unused land belongs to larger farms (more than 200 ha per farm), the management of which has typically obstructed privatization and restructuring. Since revival of these larger farms is unlikely, accelerated liquidation and the allocation of their land to the more dynamic private farming community and households holds the largest promise for short to medium-term growth gains.

Table 2.2. Share of undistributed and unused¹⁵ arable land (2002)

	(Hectares)	(%)
Batken	20,176	10%
Jalal-abad	28,086	14%
Osh	26,419	13%
Sub-total for the South		36%
Issyk-Kul	19,183	9%
Naryn	16,579	8%
Talas	24,902	12%
Chui	71,774	35%
Sub-total for the North		64%
TOTAL	207,119	100%

Source: NSC

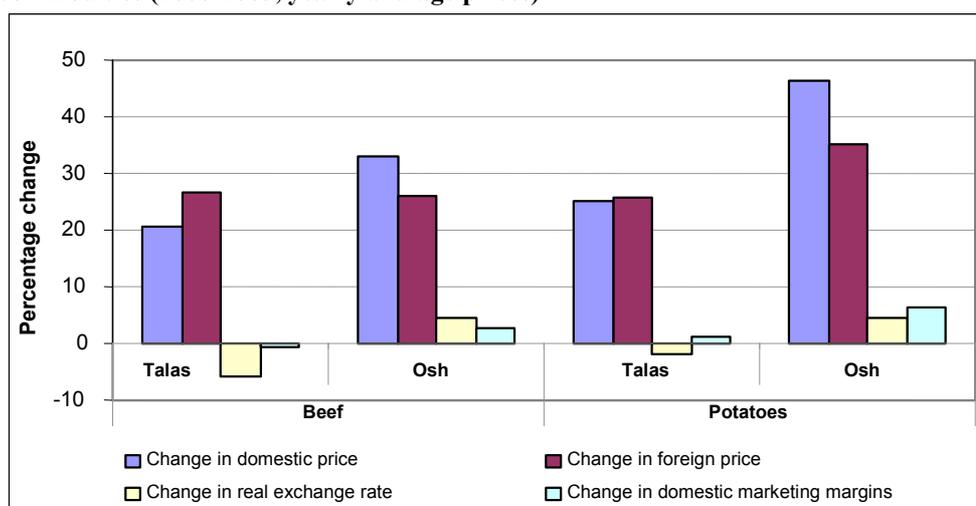
2.27 *Increased border prices are the main determinants of domestic prices.* Price improvements were mainly due to increased border prices, rather than real exchange rate depreciation, or reform-induced marketing efficiencies. This conclusion arises from comparison of monthly average producer prices in selected producer areas (Oblasts) to trading partners' prices in the neighboring regions of other countries (2000-2003). The prices in Talas Oblast (chosen to represent the North) were compared to neighboring Taraz Oblast of Kazakhstan, and producer prices in Osh Oblast (chosen to represent the South) were compared to the prices across the border in Andijan region of Uzbekistan.

2.28 Real price increases for selected commodities ranged from 20% to 45% from 2000-2003 (Figure 2.15; see light gray bar farthest to left). These domestic producer prices changes were decomposed into three contributing factors: changes in the border price; the real exchange rate; and domestic marketing margins. The latter is essentially the difference between the farm-gate price and the border price, and consists of out-of-pocket marketing costs, plus any administrative barriers, trade obstacles, and risks. It was found that international prices were by far the largest positive influence on domestic prices over this period, with depreciation of the real exchange rate and reductions in domestic marketing margins providing a small boost in two out of four cases. The real exchange rate was actually a negative factor for beef and potatoes (both in Talas), while rising domestic marketing margins partially counteracted the positive influence of higher international prices for beef (in Talas). Marketing margins have in general improved only modestly. Given the past inefficiencies in the domestic marketing system, reduction in these costs should be a major aim of domestic policy.

2.29 *It is noteworthy that domestic prices for similar commodities in different locations move more closely with external markets than with the domestic price of the same commodity in another region of Kyrgyzstan.* This may indicate internal market segmentation due to high domestic marketing costs or inefficiencies. In the case of potatoes, domestic prices in Talas move closely with the foreign (Kazakh) price, while Osh price increases are in the same general range as their respective export price in Uzbekistan. Yet domestic potato price increases in Osh over the period are almost two times the increase in Talas.

¹⁵ Unused land refers to land not under agricultural cultivation, undistributed land refers to land not being rented out from either Land Redistribution Fund or local governments. According to the results of the first agricultural census, the total area of unused and undistributed land stood at about 100,000 hectares for each.

Figure 2.15 Factors influencing real producer price increases for selected exportable commodities (2000-2003, yearly average prices)



Source: World Bank

2.30 *As a recent Kyrgyzstan marketing study concluded, future efforts to lowering marketing costs are necessary in order to increase domestic market integration.*¹⁶ Efforts to increase market access for peasant farmers – some of whom export in addition to producing for the domestic market - will also be crucial.

2.31 Continued sector growth clearly depends in part on improved prices for farmers. A prior and more fundamental issue is the size and durability of future demand for Kyrgyzstan’s agricultural production. If much of the growth immediately after 1996 was to fulfill subsistence food needs in rural areas, can we expect domestic demand to provide a sufficient market for producers in the future? Alternatively, are prospects for exports better, and if so, should this be the primary focus of marketing improvements? Clearly this is not an either/or issue, but the emphasis given to exports vs. domestic market is important. Most analysts have tended to view the domestic market as small, with little room for growth, and have focused on export opportunities.

2.32 Estimates of future demand for agricultural products were made in a recent report on agribusiness development in Kyrgyzstan.¹⁷ These assumed a “medium case” average annual real agricultural GDP growth rate of 3.2%, a domestic income elasticity for food of 0.8 and population growth of 0.7% per year. A conservative assumption was made that “growth in other sectors adds up to zero” due to the reduced gold mine production offsetting increased tourism and services (including energy). No adjustments were made to account for the effect on food consumption of future changes in income distribution, differential growth rates and consumption patterns between rural and urban areas, or relative prices. The multiplier effects of agricultural growth on non-farm incomes and (food) consumption were also ignored.

2.33 *The simple forecast indicates that opportunities for sales to domestic markets are shown considerable and exceeding export opportunities, despite cautious assumptions. Specifically, the largest absolute increase in sales is by producers to the domestic market (+\$155 million), which is over twice the anticipated increase in agricultural exports. The study does show that exports are likely to experience the largest percentage increase over the next ten years (48%),*

¹⁶ CIS7 Rural Poverty and Growth Study. *Rural Marketing in the Kyrgyz Republic*, October 2002

¹⁷ *Agriculture and Agribusiness: Growth Opportunities and Obstacles*, World Bank June, 2002, p. 12.

from 1998/99 base values (Table 2.3). Domestic consumption needs for food and agricultural products are assumed to be met by equal percentage increases in imports and domestic sales to food purchasers (both increase by 34% from the base over the 10 years). But the \$155 million increase in sales to domestic consumers is considerably larger in absolute terms than the incremental increase in imports (\$29 million) or in sales by domestic producers on export markets (\$51 million.)

2.34 Given the prospects for increased domestic market demand, a key question is whether Kyrgyzstan's farmers can efficiently compete with imports of meat, milk, eggs, vegetables, flour and other imported agricultural items purchased by consumers and processors. Both past history (embodied in the assumptions of the above model) and results from an analysis of domestic resource costs (DRCs) indicates substantial comparative advantage in import-competing production. DRCs are particularly strong for production of maize, wheat, and vegetables (tomatoes, cucumbers, watermelons).¹⁸

Table 2.3 Medium Growth Scenarios for Agricultural and Agribusiness Sales from Domestic and Foreign Sources

	Sales in 1998-1999	Medium-term growth		Increase from the base	Share of total incremental growth
	(US\$ mln)	Rate per annum (%)	Incremental sales after 10 years in US\$ mln.	(percent)	(percent)
Exports	107	4	51	48	22
KR agricultural sales to domestic market	450	3	155	34	66
Sales of imports on domestic market	85	3	29 ^e	34	12
Total	642	3.2	235	37	100
Memo: cumulative growth in 10 years		37			

Note: adapted from *Agriculture and Agribusiness: Growth Opportunities and Obstacles*, World Bank PREM, June, 2002, p. 12.

2.35 *The main challenge for domestic producers is to exploit their underlying comparative advantage by learning to compete with agricultural and agrifood imports.* This requires that priority be given to removing constraints on marketing and production for the domestic market. Export markets, which have received most attention by analysts, will remain an important growth source. External constraints on exports have been well documented, especially since Kyrgyzstan joined the World Trade Organization in 1998, and efforts to remove them should continue. The assessment that follows focuses on identification of domestic marketing constraints. Removal of these will be beneficial both for domestic markets and exports, although additional measures are clearly needed in order to access regional and international markets.

2.36 Recent analysis of domestic output markets for agricultural products has shown them to be relatively price efficient for a number of commodities (primarily grains and fruits and vegetables), in the sense that price margins confirm closely to actual marketing costs.¹⁹ The main issue in output markets is not that they are uncompetitive – they are described to be “reasonably competitive” with many independent traders – but that they are high cost and

¹⁸ The Comparative Advantage of Agricultural Production in Southern Kyrgyzstan, IFDC, October 2003

¹⁹ CIS7 Rural Poverty and Growth Study. *Rural Marketing in the Kyrgyz Republic*, October 2002

lack short and long-term finance for private investment in marketing functions from farm to retail level. The needs are considerable, and cover storage, wholesale assembly, processing, handling, sorting, grading, and packaging, among others. Reduction in constraints on provision of private financial services will reduce marketing costs, and part of the cost savings will be passed to producers through higher farm gate prices. Improved access to working capital will also reduce price instability. It will increase incentives for storage of nonperishable products (farmers will not have to sell to quickly after summer harvest in order to finance inputs for fall planting), and for perishables by increasing investments in cold storage facilities, reducing seasonal market gluts.

Box 2.1 Cotton production – expansion and emerging financial constraints

Privatization, removal of government control, and competition induced rapid expansion of the Kyrgyz cotton sector, albeit from a small base. Cotton production and processing continues to expand strongly with 260% growth in the production of cotton fiber over the 1993-2003 period. The relationship between ginneries and farmers is very similar to that in Kazakhstan, but for the 2003 crop Kyrgyz cotton farmers received on average US\$100 less per ton of raw cotton than Kazakh cotton farmers.

As in Kazakhstan there has been growth in the number of ginneries. There were only three cotton gins in Soviet times and these were privatized in the early 1990s. Since then many new gins have been constructed, with a total of 23 operating in 2004. The new gins are mostly smaller, with the original ones still processing 50% of all cotton. Another similarity with Kazakhstan is the availability of smuggled Uzbek seed cotton, induced by the continued dominance of large non-privatized farms and low state procurement prices for cotton in that country. (US\$200/ton in Uzbekistan compared to about US\$450/ton of raw cotton in Kyrgyzstan for the crop of 2003). Privatized ginners supply finance to smallholders under seed cotton “forward” contracts, and with farms contracting to deliver a pre-defined quantity of seed cotton to the gin, and the ginner agreeing to supply the producers with local currency and inputs at certain times of the season to cover the cost of inputs and labor. This system functioned well until a few years ago as gins were themselves financed under pre-finance contracts with international traders. However, ownership and management of several gins changed around 2000 when the cotton sector was a target for money laundering. Contracts were breached, and pre-finance from international traders has now largely ceased. As a result, ginners have to provide financing out of their own cash-flow and this hampers their ability to pre-finance farmers and raise farm gate prices for seed cotton. Financial constraints appear to explain most of the 20% price differential between Kazakh and Kyrgyz cotton farmers during 2003. These constraints include discontinued trader financing and difficulties in obtaining credit from the domestic banking industry.

Source: Vertical Coordination in ECA Agri-Food Chains, Draft final report, The World Bank

2.37 *In input markets, financial constraints are also significant, and relieving them will reduce marketing costs and improve market outreach. But with inputs and some agribusiness functions, there are real concerns about lack of competitiveness due to regulatory restrictions on market entry.*²⁰ This is a particular concern for seeds, which suffers from a burdensome regulatory regime that limits farmers’ access to foreign varieties. There is also mounting evidence that licensing and taxation requirements for agribusiness and marketing firms limit private investment and entry.

2.38 Probably the most important constraint on market development, but the most neglected, is the inadequacy of physical infrastructure and “soft” marketing infrastructure, both of which have public good characteristics and require enabling support from government. Degraded physical infrastructure (roads and bridges, water, telecom, electricity) is mentioned by rural residents as an important constraint on investment in local marketing and processing facilities. There is abundant international evidence that investments in and maintenance of such infrastructure has a high economic return in rural areas. In addition, public-private

²⁰ *Resources and Profitability of Agricultural Enterprises in Kyrgyzstan*. BASIS/CASE; 2002.

partnerships are necessary for certain types of soft infrastructure. These include, among others: a supportive legal framework (and technical assistance) for producer marketing associations and organizations along the marketing chain; simple grades and standards that fit local consumer requirements but are compatible with regional requirements; standardization of commodity contracts; consistent and speedy enforcement of contract breach (either judicial or non-judicial enforcement); and market intelligence.

2.39 *Growth and development of agro-processing and agro-business has been weak, relative to primary production.* New, privately owned small and medium-scale enterprises have been very slow to emerge, depriving the agriculture sector of a key source of demand and value added. Instead, most enterprises fall into two categories: numerous micro-enterprises that lack the capital, management capacity and economies of scale to be competitive; and a few large, state-owned or recently privatized enterprises with significant over-capacity and poor management. This structure severely weakens the transfer of effective demand from domestic and export markets to producers.

2.40 Numerous factors constrain the development of agri-business and agro-processing, and inhibit the emergence of small and medium-scale enterprises. Excessive regulation, continued government involvement in farm input and output markets (including export and import regulations for several commodities), and current tax policy together create an unfavorable business environment and discourage new entry and investment and growth. High interest rates and limited access to long-term capital further constrain investment. These enterprises are also limited by a lack of market information, weak or non-existent assembly systems, and inexperience with markets. The continued instability of regional trade, and consequent difficulties exporting outside the region are further burdens.

2.41 *Despite good yield performance in the past, there is significant scope for future production increases through technology transfer and innovation.* Yields are the second significant source of past growth overall, and the single most important factor for crop output. Advances in national average crop yields have been large, for instance yields for traditional food crops increased by almost 40%, with cash and fodder crops attaining even larger growth rates. Most of the yield growth for food and cash crops occurred in the first growth period with the second period growth adding to the gains of the preceding period only marginally²¹.

2.42 Growth in aggregate livestock yields (production of milk, meat, wool and eggs) over 1995-2002 has been very modest. The North registered negligible growth in the first period and a decline in the second period. Animal productivity in the South grew more strongly, although just enough to compensate for the decline in the North.

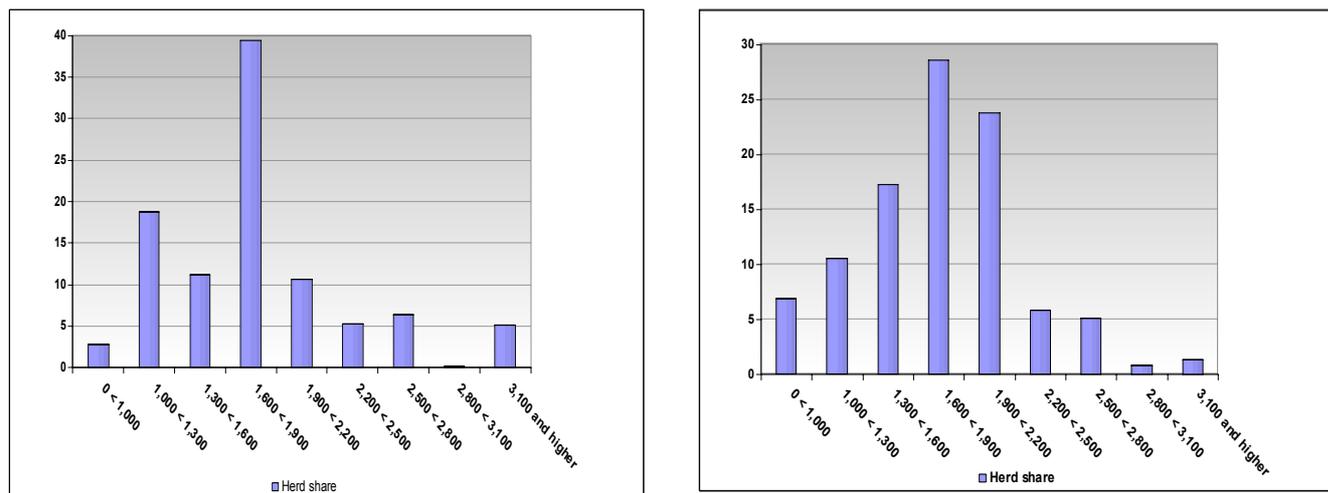
2.43 *International experience shows that a condition for sustained agricultural growth is the delivery of yield-raising technical innovations suited to farmers' factor endowments.*²² In Kyrgyzstan, technical improvements for crops must compensate for the reduced availability of arable land per worker documented in Figure 2.3. Such innovation must save land, the most scarce production factor, while making intensive use of labor, the more abundant resource. Experience from tropical Asia indicates that biological innovations embodied in inputs (improved seed varieties, fertilizer) and smaller scale labor-intensive mechanical technology are required. It is here that the Rural Advisory Service has begun to make a real

²¹ The regional yield dynamics are not directly comparable because of the significant differences in the crop mix.

²² Hayami and Ruttan *Agricultural Development: An International Perspective*; 1985 and Sarris *Agriculture and Economic Growth*; 2001 (draft World Bank report)

difference, and this extension service needs to continue expanding its outreach. Livestock production, on the other hand, can make use of Kyrgyzstan's abundant pasture land, totaling 9 million ha. This will require modification in the current arrangements for legal ownership and management responsibility of these pasture lands, which are currently divided among oblast, raion and local administration. Despite limitations on parts of this land area due to lack of water, invasion of inedible vegetation, and remoteness, pasture land is relatively abundant. In the case of livestock, technical innovations that are land using and labor saving are appropriate: extensive livestock systems relying on land-augmenting investments (e.g. water holes) and improved pasture management will be necessary as herds slowly build up.

Figures 2.16 a and b: Milk yield gap significant in North (left) and South (right), 2001



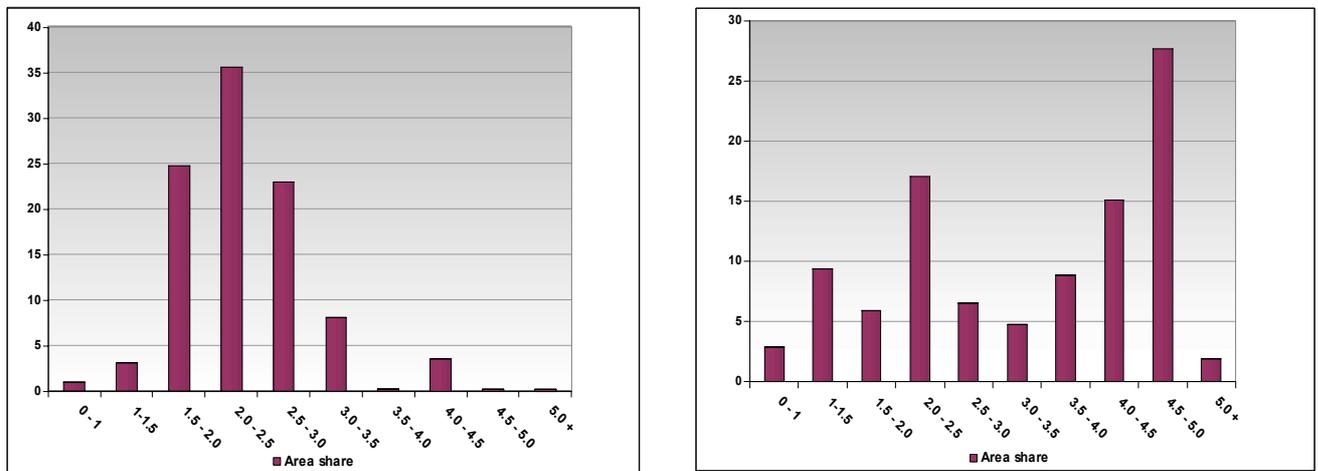
Source: BASIS Farm Survey Database (CASE)

2.44 Is there scope for significant future production increases on peasant farms, given existing technologies? To answer this, yield distributions for milk and winter wheat were prepared (Figures 2.16 and 2.17). These reveal some potential for future production increases²³. In the case of milk, there are opportunities for yield increases in both North and South, where 80% of production is in the middle yield range (1000-2200 kg/cow), and could conceivably move to the higher range.

2.45 Opportunities for winter wheat yield increases are largest in the North, where 89% of production is in the mid-range of yields. Most of these are larger farms (above 60 ha). In the South, where farms are smaller and production more intensive, 70% of production already takes place in the four highest yield classes. This indicates that opportunities for widespread yield improvements are less likely given current agricultural technologies, although a small but significant share of farms is in the lower range and could move up.

²³ These two commodities comprise 40% of the gross value of agricultural production for commodities included in the decomposition model.

Figure 2.17 a and b: Winter wheat yield gap most significant in North (left)



Source: BASIS/CASE Farm Survey Database

2.46 According to farm survey data the differences in yields of irrigated winter wheat are explained by greater input use in the South. This could be partially explained by smaller land-labor ratios that usually accompany greater input use. At the same time, the prevalence of higher yields in the South could be explained by greater opportunities for crop substitution. The higher predisposition of farms in the South to make use of such opportunities testifies to the strength of commercial response in that region. The yield gaps in the North attest to the presence there of non-privatized agricultural enterprises farming a significant part of the arable land.

Chapter 3. Rural incomes and rural non-farm economy

3.1 *Agricultural growth in Kyrgyzstan has been pro-poor and has been associated with the redistribution of land assets to small family farms and their subsequent accumulation of livestock assets.* The evidence from household budget surveys shows that sweeping land reform and subsequent accumulation of livestock assets by peasant farms, along with their increasing commercial orientation, has not only been the driving force behind agricultural growth, but has also driven rural poverty reduction.

3.2 While there had been no comprehensive assessment of the determinants of rural poverty dynamics during the recovery period, the findings of Chapter 2 about consumption-led growth in food production and increased food prices explain why the poverty alleviation outcome was mixed during that period.

3.3 During the recovery period, poverty reduction was enhanced by increased food production but compromised by higher food prices and the associated decline in food market access. This is consistent with the finding of the large number of net-food buying households in the rural area, and it explains how poverty could have increased from 1996-1998, a period when agricultural production was increasing among small households.

Table 3.1. Rural poverty headcount (% of rural population)

	1996	1997	1998	1999	2000	2001	2002
<i>Rural poverty headcount</i>	49.6	55.3	62.4	60	56.4	51	47

Source : NSC (Expenditure based method)

3.4 In contrast, rural poverty diminished after 1998 and fell consistently during the post-recovery growth period. According to the most recent Poverty Assessment, over the 1998-2001 period rural poverty fell at an average annual rate of 8%.²⁴ Furthermore, there is strong evidence that poorer households shared significantly the aggregate growth in rural incomes, food consumption and agricultural sales.

3.5 Despite the past reduction in poverty, the challenges remain substantial. This is especially true for rural areas, which have a poverty incidence of 47% versus 40% for urban residents (2002). Given that almost two-thirds of Kyrgyzstan's population is rural, 69% of the total number of poor reside in rural areas²⁵. The Assessment also revealed that rural poverty reduction was due primarily to overall growth in incomes rather than a reduction in inequality. The analysis of inter-temporal changes in per capita consumption also reveals high levels of transient poverty.

3.6 To better understand the dynamics of the rural poverty and its key agricultural determinants, a social mobility matrix was assembled using 1999-2002 panel data for 662 rural households (Table 3.2). The matrix rows present the movement of households from their initial position in 1999 to higher or lower income quintiles in 2002. Therefore, the sum of each row equals to 100% while the sum of column totals does not.

²⁴ Living Standards Assessment. "Enhancing Pro-poor Growth", June 2003, The World Bank

²⁵ The poverty has a very strong regional dimension with an estimated 59% of all poor living in the South. The northern region is less poor with the capital city of Bishkek and Chui oblast being substantially less poor than the rest of the country. However this region contains two oblasts (Naryn and Talas), which have the highest concentration of poverty in the country. The other northern oblast of Issyk-Kul together with the three southern oblasts constitutes the middle poverty group.

3.7 *There is evidence of high income mobility in rural areas, with greater upward mobility among the poorest.* The results indicate that more than two-thirds (68%) of all households have improved or managed to maintain their incomes over the period with the poorest (the lowest two quintiles) recording relatively larger gains. For example 54% of the households belonging to the lowest income quintile have managed to improve their income ranking.

Table 3.2. Quintile mobility rates for rural household income

(percent)

1999 - 2002 transition matrix					
Quintile in 1999	Quintile in 2002				
	Bottom quintile	Second quintile	Third quintile	Fourth quintile	Top quintile
Bottom quintile	46	27	15	7	5
Second quintile	26	31	26	12	6
Third quintile	17	30	26	20	7
Fourth quintile	9	17	27	29	17
Top quintile	3	8	11	20	58

N = 662

Source: NSC, 2004

3.8 Likewise, about 75% of the respondents that were in the second lowest welfare quintile in 1999 moved up or remained in the same income quintile. The households in the third and fourth quintiles have experienced the highest mobility levels, albeit mostly a negative one, 47% and 53% respectively moving towards lower quintiles. Most of these downward movements, however, involved a shift to the immediately adjacent quintile.

3.9 *Land reform was the key factor influencing improvement in welfare levels especially among the poorest.* Analysis of the same groups of rural households keeping their 1999 income rankings constant (Table 3.3) reveals that the 50% average increase in land holdings over the 1999-2002 period was associated with more than doubling of agricultural sales (111% increase), a sizable increase in own consumption (18%) and a comparable increase in livestock holdings (46%). Rural households belonging to the bottom quintile in 1999 registered significantly higher rates of growth in land holdings (75%), agricultural sales (335%), and own consumption (71%) compared with the sample average and with households in the top income quintile in 1999.

Table 3.3. Changes in agricultural welfare determinants when evaluated at initial (1999) income ranking i.e. prior to the movement (Som, in 2002 prices)

US\$1= Som 46.94 at end December 2002	Total land holdings (Ha)		Sales of agricultural products including livestock (Som)		Value of food self-consumption (Som)		Value of livestock at the end of the year (Som)	
	1999	2002	1999	2002	1999	2002	1999	2002
Bottom quintile in 1999	0.8	1.4	3,350	14,564	20,403	34,910	11,538	16,636
Second quintile in 1999	0.8	1.3	5,902	13,629	27,412	35,677	14,272	17,500
Third quintile in 1999	1.4	1.6	9,223	19,758	45,536	45,555	21,462	29,850
Fourth quintile in 1999	1.1	2.1	10,717	18,822	40,197	45,539	16,409	26,558
Top quintile in 1999	3.4	4.4	14,132	22,312	57,057	59,024	22,946	37,090
Sample Average	1.4	2.1	8,309	17,512	36,889	43,390	16,941	24,812

Source: NSC, N = 662

3.10 *Agricultural growth and the land reform program was pro-poor since the gains in land holdings, agricultural sales and food consumption were substantially higher for poorer households, helping many of them to “graduate” to higher income quintiles by 2002.* Correspondingly, negative income mobility or preservation of initial income ranking appears most common for rural households that saw their land and livestock holdings, food consumption and agricultural market participation decline or expand by less than the average.

3.11 *Looking ahead, the present structure of rural livelihoods underscores the continued importance of agricultural growth in reducing rural poverty.* To assess the present economic characteristics of rural livelihoods a larger sample of rural households was used (n = 1,500). For ease of presentation the summary is presented in the form of standard financial reports consisting of balance sheets and profit and loss accounts (Tables 3.4 and 3.5)²⁶.

Table 3.4. Balance sheets of households in different income groups						
Som, December 31, 2002						
	Income quintiles					
Sample size	(300)	(300)	(300)	(300)	(300)	(1,500)
US\$1= Som 46.94 at end December 2002	Bottom quintile	Second quintile	Third quintile	Fourth quintile	Fifth quintile	National average
Assets						
Fixed assets						
House	57,995	69,970	82,335	92,915	86,634	77,970
Land	73,207	84,455	104,383	96,678	181,442	108,033
Livestock	14,255	20,672	26,792	29,308	34,030	25,011
Agricultural equipment	854	1,409	2,791	3,497	5,081	2,726
Consumer durables	453	673	785	1,055	1,543	902
Current assets						
Cash	782	1,291	2,091	1,921	2,589	1,735
Food stocks	5,570	7,236	8,789	10,442	11,670	8,741
Livestock feed and fuel	7,102	12,009	14,393	15,281	19,130	13,583
Accounts receivable	0	200	0	0	0	0
Other current assets	1,993	3,303	3,942	4,372	5,217	3,765
Total assets	162,211	201,218	246,301	255,469	347,336	242,466
Liabilities and household capital						
Debts, loans and credits	196	0	591	193	751	244
Household equity	160,420	197,732	239,907	249,782	338,977	237,426
Including retained earnings	1,594	3,486	5,803	5,494	7,608	4,796
Total Liabilities	162,211	201,218	246,301	255,469	347,336	242,466
Source: NSC						

3.12 *Moderate inequality in agricultural asset holdings.* Table 3.4 shows that the values of the agricultural assets generally increase with income level. The bottom quintile has 65% the land and 56% the livestock of the top quintile with ownership of current assets at similarly low relative levels.

3.13 *The middle income group of households has greater dependence on agricultural incomes.* The most striking pattern that emerges when looking at the sources of household incomes (Table 3.5) is the similarity among middle income groups (i.e., the second, third and fourth quintiles, which account for 60% of the rural household population). For this middle income group, sales of crops and livestock products represent on average 45% of total household cash income. By contrast, the bottom and top quintiles derive 35% and 40% of their cash income, respectively, from agriculture. Coupled with the fact that these three quintiles represent the mass of households most closely clustered around the national poverty line, continued agricultural growth will rapidly push these households above the poverty line, as it has done in the past.²⁷

²⁶ Please refer to the Annex for the regional exposition of the same.

²⁷ The poverty line is a per capita measure while the presentation refers to the aggregate household level data. However given the fact that economic characteristics of these three income quintiles are very similar to those of the national average household the inaccuracies of such a comparison are expected to be small.

Table 3.5. Income statements of households in different income quintiles

US\$1= Som 46.94 at end December 2002							
Som, January – December 2002	Sample size	Income quintiles					National average
	(300)	(300)	(300)	(300)	(300)	(1,500)	
	Bottom quintile	Second quintile	Third quintile	Fourth quintile	Fifth quintile		
Sales	6,530	13,790	16,224	17,129	19,722	14,679	
including sales of agricultural products	4,255	8,904	10,318	10,711	10,851	9,008	
Cost of goods sold	2,281	4,338	5,083	6,249	8,168	5,224	
Gross margin	4,249	9,452	11,141	10,880	11,554	9,455	
Labor income	5,376	7,094	9,450	11,942	14,888	9,750	
including wage labor	4,793	5,894	8,006	10,353	13,348	8,479	
Other revenues/expenses from financial activity	2	1	0	3	105	22	
Pensions and other transfers	3,746	2,911	3,387	3,229	4,672	3,589	
Other revenues/expenses	301	331	311	244	402	318	
Expenditures on food	8,747	10,586	11,476	12,748	14,051	11,522	
Expenditure on other consumer goods	3,004	5,149	6,178	6,825	8,333	5,898	
Income before taxes	1,923	4,054	6,635	6,725	9,237	5,714	
Taxes and fees	328	568	832	1,231	1,629	918	
Retained earnings	1,594	3,486	5,803	5,494	7,608	4,796	
Memo Items:							
1. Food produced for own consumption	24,228	34,520	39,564	44,587	49,870	38,554	
2. Livestock sales (Net)	1,349	2,400	2,748	2,978	6,175	3,134	
3. Purchases of fixed assets and financial instruments (Net)	1,033	1,478	3,287	2,693	5,505	2,799	

Source: NSC

3.14 *Measures aimed at strengthening domestic food markets will be especially important for the poorest households, which are typically food-deficit.* The poorest 20% of rural households are predominantly food deficit, and they depend on non-agricultural income sources to fund expenditure on food. Food purchases of the households in the bottom quintile account for about 47% of their total cash outlays. This fact, coupled with lower average values of food stocks (with the approximate worth of two months of average monthly consumption,) raises serious concerns about the food security of poor rural households.

3.15 Table 3.6 presents the regional distribution of the net food buyers among rural households²⁸. The regional breakdown clearly shows that with exception of Talas and Batken Oblasts, most of the rural population is food deficit.

²⁸ Net food buying households are defined as households whose cumulative outlay on food during 2002 exceeded the aggregate annual value of sales of agricultural products including processed food products and livestock.

3.16 The diagrams in Figure 3.7 present monthly agricultural sale receipts and outlays on food by rural households in Chui and Osh Oblasts, which are considered to be representative of the North and the South, respectively. Average monthly expenditures on food are relatively constant, while sales follow the agricultural season and peak in early spring and in late autumn. The most important observation however is the difference in their levels. The prevalence of food expenditures over sale revenue for most of the year indicates that Chui oblast is a food deficit region. This explains the unusually high incidence of net food buyers in this oblast. To the contrary, Osh Oblast has a positive balance, although not a large one.

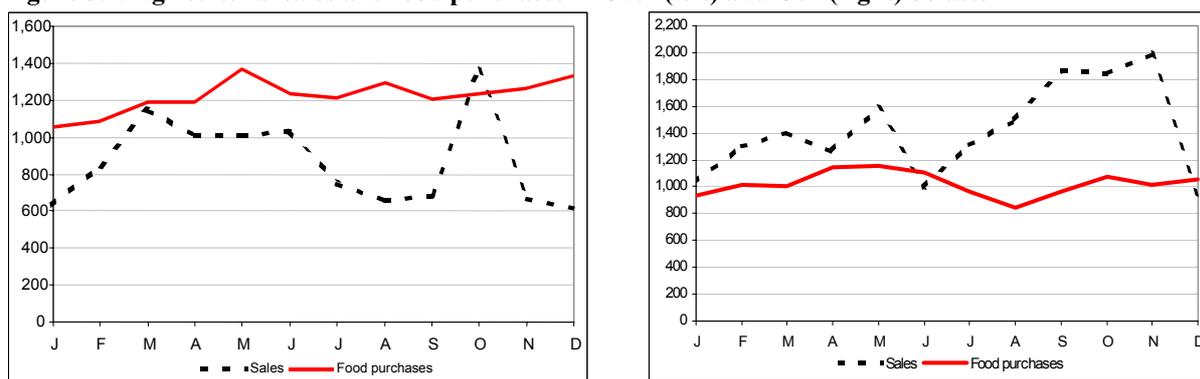
Table 3.6 Share of net food buyers among rural households (2002)

	Net food buyers (%)
North	
Issyk-Kul	58%
Naryn	63%
Talas	44%
Chui	79%
South	
Batken	30%
Jalal-Abad	53%
Osh	53%
Total	56%

Source: NSC, N# 1,500

3.17 Analysis of other regions reveals that most of the North is food deficit (with the exception of Talas Oblast) even when accounting for sales of livestock. This indicates that in the North short-term agricultural growth may be driven in part by rural as well as urban demand, but it also underscores the need to maintain low rural food prices during the growth process, in order to protect rural food security.

Figure 3.7. Agricultural sales and food purchases in Chui (left) and Osh (right) oblasts



Source: NSC, 2004. Sample size: N = 202 for Chui, and N = 157 for Osh

3.18 *Increasing non-farm labor income is the most promising avenue for the poorest to escape poverty, because the poorest have limited opportunities to expand agricultural operations.* The capacity of the poorest households to increase food production through intensification is impaired by lower value assets and lower investment capacity. Data analysis suggests that this happens because of the combined effects of a weaker and declining agricultural asset base, a lower scale of agricultural production and lower profitability as well as relatively larger share of total income spent on food.²⁹ As food purchases displace other expenditures, the overall level of funds available for productive expenditure declines.

3.19 *Currently, development of the rural non-farm economy lags behind agriculture.* When accounting for the imputed value of self-consumed food production, non-agricultural labor income, which traditionally is a very important source of income for the rural poor, is small (16%). Rural wages are low because non-farm economy is still embryonic and most of the existing farm entities have emerged only recently.

²⁹ More detailed analysis reveals under investment in fixed assets and moderate “asset-mining” behavior especially for livestock assets by the poorer households.

3.20 *Public sector employment still prevails in rural labor markets.* Wage earning households (Table 3.8) are overwhelmingly engaged in public administration and social services, which provide for about 38% of all non-agricultural labor employment, and 53% of all wage income. Entrepreneurial activities provide for one-fourth of total non-farm employment in the sample. In addition, the average monthly income from entrepreneurial activities is about 20% lower than the average monthly income provided by wage employment.

Table 3.8. Employment by sector in 2002

US\$1= Som 46.94 at end December 2002	Number of workers	% of workers	Average monthly earnings (Som)
Wage employment			
Agriculture, hunting, fisheries and forestry	76	7	699
Industry, utilities and construction	134	12	1,066
Trade, transport and financial services	143	12	996
Public administration and social services	442	38	903
Others	65	6	1,101
Wage employment - sub-total	860	75	937
Entrepreneurial income			
Individual entrepreneurs	264	23	798
Other entrepreneurial income	1	0	167
Members of a production cooperatives	26	2	445
Entrepreneurial income - sub-total	291	25	773
Total	1,151	100	896

Source: NSC, N#1,151 (individuals)

3.21 *At the same time, the demand-side prospects of agriculture-led growth in rural non-farm economy are promising.* Increased agricultural productivity will generate demand for additional inputs and services. Likewise, increased household incomes will boost the demand for consumer goods and non-farm services. The magnitude of the multipliers of the Social Accounting Matrix, calculated on the basis of 2001 data, indicate that these backward and forward linkages are particularly strong for agriculture.

3.22 *The small size of the rural non-farm economy is a reflection of a very low starting point.* Agriculture demand for non-farm goods and services has undoubtedly increased during the post-recovery period, which is associated with greater agricultural cash receipts. Therefore, measures to sustain agricultural growth and its increasing commercial orientation will also promote the growth in the rural non-farm economy through linkages between household income and non-food demand.

3.23 *Demand for products and services of the rural non-farm economy will grow faster than household cash income.* Review of the evolution of per capita rural expenditures over time (Figure 3.9) illustrates that from 1997 to 2001, expenditure on non-food items and services (two separate categories) grew faster (240% and 300%, respectively) than food expenditure (220%). Based on comparison with (richer) urban expenditure pattern growth in expenditures on services can be expected to outpace growth in total incomes, gradually gaining a greater share in total expenditure.

Table 3.9. Annual expenditure per capita (Rural households)

(in nominal Som)	1997	1998	1999	2000	2001
Total expenditure (Rural)	2,587	2,893	3,970	4,971	6,209
including:					
Consumption	2,031	2,253	2,949	3,792	4,794
Food	1,101	1,187	1,592	2,035	2,421
Non-food	709	805	1,002	1,290	1,711
Services	221	261	355	467	663
Taxes, fees and contributions	71	71	103	103	144
Other cash expenditures	485	569	918	1,077	1,271
Memo item: (Urban)					
1. Per capita total expenditure of urban household	4,273	4,973	6,205	7,835	9,479
2. Per capita expenditure on services for urban households	622	732	924	1,297	1,731
Share of services in total expenditure	15%	15%	15%	17%	18%

Source: NSC. Households Budget Survey Results.

3.24 *The constraints to the supply side of the rural non-farm economy are not yet known, although its development will benefit from an improved taxation regime*³⁰. How well and how fast the non-farm economy responds to increased household expenditure depends on the supply response of non-farm economy. In effect, because the non-farm economy is only emerging, it is possible that not all constraints have yet been revealed and therefore a careful review of the Government's policies that could deter the development of the private non-agricultural businesses in rural areas should be undertaken. A forthcoming Country Economic Memorandum details a number of measures that will facilitate non-farm enterprise development.³¹

3.25 *Growth in services will drive expansion in the rural non-farm economy.* Kyrgyzstan being a small, open economy, it is likely that a large share of the growth in non-farm economy and associated employment will be driven by the growth of non-tradable sectors or services. Most of rural demand for consumer goods is expected to be met through the imports from neighboring countries (China, Russia and Kazakhstan). Thus, consumer good imports represent "demand leakages" from the perspective of domestic manufacturing.

3.26 The present picture of rural entrepreneurship (Table 3.10) is consistent with this argument - in 2002, 86% of all sampled micro-enterprises were involved in the services sector and only 4% involved in manufacturing. At the same time, given Kyrgyzstan's open trade regime, low cost imports of consumer goods, in addition to stimulating the domestic service industry, will maintain the purchasing power of rural incomes, and some of the incremental income will be spent on services or non-tradable commodities.

Table 3.10 Individual entrepreneurship by sector in 2002

USS1= Som 46.94 at end December 2002	Number of workers	%	Entrepreneurial income as % of total income	Average monthly entrepreneurial income
Manufacturing	9	4	21	598
Trade	149	56	15	428
Construction	4	2	11	518
Transport	80	30	19	803
Other activities	22	8	7	344
Total	264	100.	16	542

Source: NSC
N # 1,151

3.27 *In sum, a short to medium-term strategy to raise productivity growth in agriculture that targets small family farms will have large effect on overall growth, employment and poverty reduction.* Given the central importance of agriculture to the national economy, direct effects of agricultural growth on the national economy are likely to be large. In addition, the indirect effects of agricultural growth will be enhanced by income and employment multipliers. This is highly beneficial for the poorest households. The results of the Social Accounting Matrix analysis in the Country Economic Memorandum (CEM) confirm the strength of backward and forward linkages from agriculture to the national economy. The most important spillover effects is in job creation and development of the non-farm rural economy, which will benefit the poorest. As a result, opportunities for wage employment will appear and wage levels will increase. However, as argued by the CEM, increased agricultural productivity needs to be complemented by additional measures to raise wages in the economy. These include development of the basic infrastructure, implementation of regulatory reform, investment in education and reduction in the number and extent of external trade barriers.

³⁰ See discussion of the taxation in Chapter 4

³¹ Kyrgyz Republic. Country Economic Memorandum. *An Integrated Strategy for Growth and Trade*. June 2004.

Chapter 4. Emerging challenges and opportunities for government and donors

Implications of past growth patterns for the future

4.1 *The defining characteristic of Kyrgyzstan's recent growth experience has been the reduction in subsistence food orientation among new private farms, and the emergence of commercially oriented peasant farms.* These small family farms have been the engine of agricultural growth since 1996, and with a supportive policy and public investment environment their contribution can increase. Future growth and poverty reduction therefore depends on the ability of policymakers to develop public strategies that recognize and effectively address the constraints faced by these farmers. The constraints are significant and can be broadly classed into two sets of problems: high cost domestic agricultural marketing systems that are inaccessible to peasant farmers, and inadequate access to biological and mechanical production technologies that are appropriate to the small size and resource constraints of family farms.

4.2 *The first priority of a pro-poor rural growth strategy should be the improvement in the performance and outreach of private agricultural markets serving private farms.* Marketing performance is hindered by policy and regulatory constraints, lack of appropriate public institutional support to the private sector, and inadequate public investment in rural infrastructure, which raises the cost of moving goods and doing business. These constraints limit the development of low cost, responsive marketing systems with high outreach to peasant farms. Development of private sector wholesaling, transport, processing and storage functions are severely limited by: tax policies (especially VAT) that reduce incentives for market entry and limit investment at different levels of the marketing chain; financial sector policies and institutional weaknesses (collateral legislation, inadequate supervision framework) that limit the supply of finance to smaller rural borrowers; and regulations in input markets that restrict entry of private traders and producers to the business. Missing institutional supports include, among others, agricultural grades and standards, market intelligence, associations of marketing chain participants, mechanisms for resolution of contract disputes, and simple standardized contracts.

4.3 *The second priority should be establishment of institutions for transfer of existing technologies to farmers.* Efforts to support market development should be complemented by interventions that increase technology transfer and through this, peasant farm yields. While improved input marketing is essential, extension services that are privately provided, but publicly funded, are also necessary. Donor efforts have begun to build private sector extension expertise, the key problem is how to cover the recurrent financial costs associated with these necessary services in the future. This is discussed in more detail below. Aside from input marketing and extension system development, significant constraints still exist on the policy side and should be addressed quickly. These include:

- the completion of land reform, and privatization of remaining state shares in any remaining agribusinesses;
- acceleration of irrigation cost recovery and restructuring;
- improved management of near and far pastures by public bodies;
- modification of VAT on large farms (also on agribusinesses) and replacing it with a more appropriate land tax administered and kept by local self-governments for maintaining essential rural infrastructure;
- improvements in the policy and regulatory environment for rural financial institutions, particularly serving small farms.

4.4 *Public infrastructure and improved rural finance are the third and fourth priorities. These support development of the marketing system, the farming systems, and the rural non-farm economy.* lack of adequate rural roads, clean water and sanitation, dependable telecommunications, and electricity hinder rural private investment in general. Rural infrastructure rehabilitation will depend upon involvement of local governments and communities in the planning, financing and maintenance of affordable infrastructure. International experience has shown that the sustainability of rural investments depends upon involvement of the beneficiaries in project development, financing and maintenance, Rural infrastructure investment is therefore highly dependent on coordination with decentralization policies, and a focus on village infrastructure can be used to develop local institutional capacity and financing ability, thereby furthering the decentralization agenda.

4.5 Finally, the situation of the poorest rural households requires special consideration. Unlike peasant farms, these households have been divesting agricultural assets. Households in the lowest quintile have a heavier dependence on unremunerative non-farm employment, and depend to a considerable extent on food market purchases to fulfill their consumption needs. Stimulation of agricultural growth will help these less viable farm households by inducing growth in the rural non-farm economy, a sector on which these households increasingly depend. Agricultural growth also has the potential to lower food prices, which is a direct benefit to households relying on market food purchases. Additional measures may be necessary to support the lowest income group, including supply side measures to stimulate emergence of an active non-farm economy (for example small business support, vocational training and active labor market measures, micro-finance). While an important conclusion of this study is the extent to which agricultural growth can reduce poverty, not all poor households have economic potential. For these, a social support strategy is required.

The macroeconomy and public expenditure constraints

4.6 *The capacity for greater public support for agriculture and rural development will remain highly constrained for the medium-term due to Kyrgyzstan's small economy, weak tax base and high levels of external debt.* Current IMF projections foresee 5% annual GDP growth for 2004-2006, assuming a budget deficit less than 3%, inflation below 3.5% and a stable exchange rate. Targets for the Government-approved NSPR include a cumulative reduction of one million people in poverty.

4.7 *Continued agricultural growth is central to meeting and reconciling the objectives of the government's NPRS and the IMF supported program.* Looking ahead, the nature of future public support for the agriculture sector has thus become a critical issue for policy and program formulation. At present, high levels of donor funding not only decrease the Government's ability to reduce external public debt, but also create a dependence on donor budget support to meet recurrent costs. Recognizing these problems, the Government, following the IMF's advice, has introduced a debt reduction strategy based on lower public borrowing, higher tax revenues, and debt rescheduling. Under this program, the PIP is to be reduced to 3% of GDP by 2006. Greater sustainability of public expenditure in agriculture will derive from activities with high growth impact that involve private cost recovery and private service delivery.

4.8 *Recurrent cost liabilities of the current public expenditure programs in agriculture are growing faster than government's revenue mobilization.* Recent trends in direct expenditures are summarized in Table 4.1 below. The agriculture sector continues to benefit from high levels of public investment, almost all of which is donor financed. Of these, the PIP is the

largest with disbursements of \$US 20-30 million annually for 2001-2003. More than 90% of this expenditure is donor financed.

Item	2001	2002	2003	2003/2001
Agriculture Sector PIP¹				
Nominal (million Som)	992.026	1,460.621	1,371.917	138.3%
Real (m Som) (1999=100)	781.739	1,128.765	1,028.423	131.6%
\$US (million)	20.245	31.077	31.180	154.0%
% Donor Funding	84.2%	97.3%	98.0%	n.a.
% of Total PIP	27.0%	36.2%	40.8%	n.a.
% of Agriculture GDP	4.8%	6.3%	4.6%	n.a.
MAWRPI Budget Expenditure				
Nominal (million Som)	306.825	464.814	535.765	174.6%
Real (m Som) (1999=100)	241.785	359.207	401.623	166.1%
\$US (million)	6.262	9.890	12.176	194.5%
% Donor Funding by EU	52.3%	43.7%	40.0%	n.a.
% of Total State Budget	3.1%	3.4%	3.5%	n.a.
% of Agriculture GDP	1.5%	2.0%	1.8%	n.a.

Sources: Ministry of Agriculture, Water Resources and Processing Industry; Ministry of Finance.

¹Actual expenditure. Includes support for MAWRPI plus programs for rural credit, land reform, flood control, forestry and village development

4.9 Outlays under the MAWRPI budget are much lower than under the PIP. This calls into question the ministry's ability to maintain and operate many donor funded public investments after project completion. High levels of donor budget support are also a major concern. Without an explicit exit strategy from this kind of support, government dependence is likely to increase. More importantly, MAWRPI needs to be refocused and restructured so as to concentrate on essential public functions while dropping others that are nonessential. EU-TACIS is currently carrying out a functional review of MAWRPI, and this should provide the basis for a serious institutional reform that reduces costs, while increasing the economic benefit of ministry activities.

Priorities of public support for agriculture

4.10 Given its central importance to the national economy, the priorities in public sector support to agriculture should advance economy-wide objectives stated above: growth, poverty reduction, and increased capacity to meet recurrent costs.

4.11 Priority should go to measures that facilitate private sector investment and increase private sector incomes. These not only broaden the base for economic growth, but also increase the capacity of rural households to contribute to the recurrent costs of public services and programs through user fees and/or taxes. What kinds of public support programs respond to these two sets of objectives? The recommended priorities for future public support, outlined in the introductory section of this chapter, provide a starting point.

4.12 *Development of agricultural markets and market integration of peasant farmers.* This group of interventions has a greater emphasis on strengthening markets for agricultural outputs and inputs and encouraging more active participation in these markets by reducing transaction costs, improving market information, and increasing the bargaining power of farmers relative to other market agents. Specific measures include:

- a) Promotion of better access to post-harvest storage and working capital, new forms of contractual relationship, and group marketing activity (farmer co-operatives and associations). Farmers are still very cautious because they lack the knowledge and the resources (e.g. post harvest storage, access to working capital, standardize contracts, group bargaining power, contracts security) to minimize market related risk.
- b) Support for the commercialization of small-scale peasant farms by strengthening the links between farmers and consumers at all points along the supply chain. These can be strengthened by, among other measures, the establishment of simple quality grades and standards for cash and food crops, as well as livestock products. The benefits to farmers are substantial, and include increased transparency of transactions (with reduced risk), the opportunity for a better price premium, and general ease of marketing.
- c) National and regional efforts to improve trade flows and expand exports. This includes measures to reduce transit times and corruption at border transit points, reduction of non-tariff barriers to trade in neighboring countries, and bilateral and regional trade agreements along with mediation of trade disputes.

4.13 *Enhancing agricultural productivity and value through technology transfer.* Productivity-led growth depends on transfer of appropriate technologies to peasant farmers by private institutions (e.g. input suppliers) and where the private sector lacks the incentive, to public research and extension bodies. Specific activities relevant to technology transfer include:

- a) Continued support for measures to increase on-farm production and productivity, through the transfer of improved technology and the introduction of more efficient farm management systems. In addition to measures facilitating emergence of private input markets, this includes support for the future operations of the Rural Advisory Service (RAS), a successful model that can be scaled up;
- b) These programs should also include continued rehabilitation of irrigation and drainage systems where economically justified, since, so far, only about 30% of the system has been rehabilitated.³² Future programs of this nature should give much greater emphasis to improving the incomes and profitability of *small-scale peasant farms* in the newly formed WUAs, to strengthen their capacity to meet higher water user fees.
- c) Continued improvement in the rural lending environment for bank and non-bank financial institutions (including KAFC), with a focus on more sustainable financial services for small farmers as a key medium-term objective of project design. The lending environment will benefit from improved collateral legislation and better contract enforcement; an improved supervision framework for credit unions and other NBFIs; and revised tax treatment for leases, to reduce disincentives to private machinery leasing;
- d) Encourage foreign direct investment (FDI) in banks, non-bank financial institutions, and agribusiness through policy reforms that improve the business and investment environment (reduced corruption, improved trade, more favorable taxation policies, etc.);

³² World Bank staff estimates

- e) In marginal areas or for poor households, the emphasis should be on poverty reduction programs designed to increase the production of traditional crop and livestock products, increase non-farm income, improve access to health and education (especially for rural children and youth), and improve physical infrastructure.

Public expenditure sustainability: a medium to long term objective

4.14 *Medium to long-term policy measures are important, as the cost-saving advantages of short-term measures are limited.* Measures aimed at sustainability of public expenditure need to be pursued in parallel with continued support to sector growth and poverty reduction. The path to sustainability lies ultimately with measures to increase the capacity of the private sector to assume more of the burden of current public expenditure, and expanding this capacity will take time. Donor investment support should continue, but at progressively lower levels. Donor budget support should also continue, as it allows government more time to build its resource base and achieve sustainability, while still providing services.

4.15 *Taxation: small increase in land tax and elimination of VAT for agriculture.* In sharp contrast to the substantial public transfers it receives, the agriculture sector is lightly taxed. Land taxes are levied but the rates are very low, farm inputs are exempt from VAT, and widespread smuggling allows farmers to avoid import taxes on farm inputs (a prime example is the widespread use of smuggled fertilizer by the cotton subsector).³³ Medium and large agro-business and agro-processing enterprises are subject to high and discriminatory taxation, however, which constrains the growth of commercial agriculture. Imposition of VAT on more enterprises will further inhibit commercial market activity and drive small rural enterprises into the informal sector at a time when they should be expanding and seeking access to formal markets for capital and new technology.

4.16 Given the public transfers the sector receives, it is difficult to justify the relatively small contribution it makes to public revenues. Higher contributions to the public purse are warranted; the key problem is finding a form of taxation that does not discriminate or stifle new business emergence. In particular, the disincentives for small and medium size farms and agri-business enterprises to expand and engage in the formal economy must be minimized, if the broad objective of private sector driven growth is to be achieved. In this context a modest increase in the land tax may be an acceptable alternative to the VAT – especially since land tax revenues are intended to remain with the village self-governments and can be directly used for investment in and maintenance of local infrastructure.

4.17 *Phasing out of implicit subsidies will take time.* In addition to direct transfers from public expenditure, farmers also benefit from implicit price subsidies associated with water use.³⁴ Together with implicit subsidies associated machinery imports, these transfers are similar in magnitude to the annual MAWRPI budget (see Annex 3). Policy reforms that require farmers to pay a higher proportion of costs both reduce these transfers to farmers and increase the public sector capacity to meet the recurrent costs of service provision. Farmers should ultimately fully bear these costs and the proposals in this study for growth enhancing investment in marketing and technology transfer will increase their ability to shoulder them. More effort is needed to help them raise incomes and take full advantage of improved access

³³ As of January 2003, land tax in arrears was estimated at Som 54 million. Som 50 million was outstanding as of January 1, 2002.

³⁴ Assessment of indirect transfers associated with imports of agricultural machinery as well credit subsidies are presented in the Annex.

to water and agricultural markets. Prompt approval of enabling legislation together with elaboration of detailed proposals are also needed to guide critical decisions on how far and how fast to phase out these transfers.

4.18 *Water fees.* Farmer payments for irrigation water are much less than actual expenditures by the Department of Water Resources (DWR) for water delivery, and are far below the real cost of water delivery (if all capital and operating expenses were to be met). The indirect transfers associated with water use for irrigation are estimated below for both cases, based on average water use for 1999-2002 and water fees and DWR expenditure for 2003. Current transfers are assessed on the basis of actual budget expenditure less farmer payment of irrigation fees (0.03 Som/cubic meter), and indicate the additional amount farmers would have to pay in order to cover the current, minimal operating costs. Real transfers are assessed on the basis of full operating and capital costs, and indicate the additional amount farmers would have to pay in order to meet all recurrent costs of current public irrigation programs and make them fully self-sustainable. This full cost of operation and maintenance is estimated by DWR staff at approximately 0.2 Som/cubic meter. (Table 4.2) The true costs are likely to be significantly lower, as these estimates are based on the assumption of the continuous operation and maintenances of irrigation and drainage facilities by DWR without improvements in efficiency. International experience indicates that efficiency is likely to increase as water users increase their role in the management of water delivery.

Table 4.2. Estimates of Indirect Transfers Associated with Water Use for Irrigation

Item	Unit	Current Transfers	Real Transfers
A. Water Use for Irrigation	mil cum3	5100	5100
B. Unit Water Cost	Som/cum3	0.06	0.20
C. Total DWR Budget Expenditure	mil Soms	314.122	1020.000
D. Farmer Water Use Payments			
Unit Payment	Som/cum3	0.03	0.03
Total Assessed Payment	mil Soms	153.0	153.0
LESS Non-Payment	mil Soms	34.1	34.1
Net Payment by Farmers	mil Soms	118.9	118.9
E. Net Transfer to Farmers	mil Soms	195.222	901.100
	\$US mil	4.437	20.480

Source: Ministry of Agriculture, Water Resources and Processing Industries

4.19 Focused programs to improve crop production and marketing among emerging WUAs would provide strong support for increasing water fees, and help to demonstrate that the increased costs of an improved irrigation system can be more than offset by the benefits. There is also scope to increase cost recovery through improved payment collection. The real issues lie in how fast to increase water user fees, and how high to raise them. As there is little empirical information on which to base such an assessment, priority should be given to an analysis of ability and willingness of farmers to pay. The huge gap between farmer payments and actual costs (however estimated), together with farmer willingness to pay more, are both powerful arguments for an eventual increase in water use fees.

4.20 *Re-orientation of the investment priorities in PIP requires fundamental ministry restructuring, not just a change in financial allocations.* Together with rehabilitation of irrigation systems, rural finance and support for public services account for much of current public investment on agriculture (Table 4.3). This study recommends a shift towards activities that improve marketing system performance and outreach, and increase peasant farm productivity. It should be emphasized that such a shift requires a fundamental rethinking

of the ministry's functions vis a vis the private sector, a restructuring of its roles and responsibilities, and retraining of its staff. Proposals for restructuring are being prepared by EU-TACIS, and *any efforts to shift expenditures toward marketing and on-farm productivity improvement will be counterproductive without a prior restructuring of public agricultural institutions and increased private sector cost recovery and service delivery* (e.g. for extension and technology transfer). Although restructuring is likely to reduce recurrent costs, the main benefit of ministry reform will come from increased sector growth and associated opportunities for cost recovery.

Table 4.3. Agriculture Sector Projects in the Public Investment Program for Kyrgyzstan

Item	2001	2002	2003	2003 % Composition
Planned Expenditures (\$US million)				
MAWRPI¹				
<i>Department of Water Resources</i>	8.102	14.198	9.607	30.0%
Irrigation Rehabilitation Project (IDA)	4.549	8.547	5.717	17.8%
On-Farm Irrigation Project (IDA)	0.470	1.021	1.895	5.9%
Aral Sea Basin Project (WB/GEF)	0.361	0.585	0.255	0.8%
Flood Emergency Project (IDA)	2.721	3.796	0.903	2.8%
Rural Water Supply and Sanitation Project (IDA/DFID)	0.000	0.249	0.836	2.6%
<i>Other Departments</i>				
Sheep Development Project (IDA/IFAD)	0.616	0.585	0.099	0.3%
Agricultural Services Support Project (WB/IFAD)	2.092	2.324	2.624	8.2%
Agriculture Area Development Project (ADB)	1.200	2.200	3.434	10.7%
Community-Based Infrastructure (ADB)	1.000	3.600	7.857	24.5%
<i>Ministry of Ecology and Emergencies</i>				
Emergency Flood Project (ADB)	2.106	0.889	0.114	0.4%
<i>State Agency on Registration of Rights to Immovable Property</i>				
Land and Real Estate Registration Project (IDA)	1.292	1.883	1.257	3.9%
<i>Kyrgyz Agriculture Finance Corporation</i>				
Rural Finance Project (IDA)	4.675	6.064	4.418	13.8%
Credit Union Development (ADB)	1.730	0.650	0.968	3.0%
Forestry	0.000	0.767	1.343	4.2%
Village Investment Project (IDA/Japan)	0.000	0.000	0.343	1.1%
TOTAL	22.813	33.160	32.065	100.0%
Total MAWRPI	13.010	22.907	23.621	73.7%

Source: Ministry of Finance.

¹Includes expenditure by both donors and government.

4.21 Projected disbursements in PIP by the MAWRPI for 2004-2006 indicate a moderate decline in expenditure, from US\$31.7 million in 2004, to US\$ 22.5 million in 2005 and US\$ 24.7 million in 2006³⁵. Most of this expenditure is for existing projects, many of which will end during this period, including most of the irrigation projects. New agriculture sector projects under consideration include further regional development projects by the ADB, a modest World Bank project to support market development, and further support from USAID

³⁵ Ministry of Finance. Refers to MAWRPI projects only.

for the development of small-scale commercial agriculture. *As most of the larger components of the current PIP are coming to an end, now is the time to change the focus and balance of the PIP portfolio for agriculture for 2005-2010.*

4.22 *Two new themes should predominate.* First, projects and programs to boost agricultural productivity, marketing and trade. These programs should emphasize technology transfer and the development of private sector institutions, and should be directed towards private farms, particularly those who have benefited from programs to rehabilitate irrigation systems and establish WUAs. The agricultural research system also needs urgent attention to reorient it towards the needs of private agriculture operating in competitive markets. Given appropriate support of this nature, these farmers should become the engine for continued sector growth. Rural development programs to improve rural investment environment (e.g. basic infrastructure) and to meet the needs of poorer rural households should be the second thrust of the PIP. These rural development programs should build the capacity of local governments, communities and community-based organizations to establish and maintain essential public and community infrastructure. The Village Investment Project is a good example of such a program.

4.23 Bilateral donors such as USAID, Japan, Switzerland, Germany and the UK have already begun to implement grant-based programs of this nature to strengthen commercial agriculture and facilitate rural development. Improved donor co-ordination would be critical in these circumstances, as the new PIP portfolio would involve more donors, with smaller, more disparate programs.

4.24 *Strengthening the capacity of the MAWRPI to meet recurrent costs and to deliver effective public services is the most difficult facet of improving the sustainability of public expenditure for agriculture.* As the existing budget is already very limited and public service delivery is weak, there is little scope to increase sustainability by re-allocating budget resources from non-essential to essential services. Measures to improve efficiency within the MAWRPI and to reform the current system for allocating budget resources should also be pursued, even though the additional resources released are unlikely to be large in absolute terms.

4.25 *Weak institutional capacity is also a major constraint, and duplication of organizational structures is still widespread. Further increases in budget resources should be preceded by substantial improvements in human capacity and institutional re-organization.* Until there is a marked improvement in MAWRPI capacity, any increases in MAWRPI budget expenditure should be commensurate with economic growth and increased tax revenue, and the agriculture budget should be kept at present levels approximately equivalent to 3%-4% of total budget expenditure and around 2% of agriculture GDP.

Short-term measures: rationalization of public sector delivery and donor coordination.

4.26 The following measures could be pursued now in order to establish the basis for improved sustainability of public expenditure and build the consensus among the interested donors about the framework of the future programs. These recommendations should be actively debated by government and the donor community during preparation of the forthcoming agriculture sector strategy.

4.27 *Reorganization of the MAWRPI, based on proposals by the EC Food Security Program, should be the starting point for improved sustainability of public expenditures.* Four activities are important in this context. First, the development of an appropriate mechanism for linking budget allocations to sector priorities. Second, it is necessary to terminate support for non-essential programs and activities through *privatization of livestock breeding, fish farming enterprises, seed production and multiplication, and state farms together with much of the veterinary services, and the transfer of responsibility for the hippodrome to local government*³⁶. Third, institutional efficiency should be increased by removing duplication of roles and activities, and by requiring that all payments for public services be made in cash. Finally, continued staff training will be essential to improve efficiency, as ministry staff will need support to adjust to their new roles and responsibilities.

4.28 *Maintaining focus on essential public services (animal health, plant protection, phytosanitary control, inspection etc), linked more closely to institutional reform and EU budget support.* A careful review of the budget support provided under the EC Food Security Program is also warranted, in the context of its impact on the medium-term sustainability of public expenditure programs for agriculture. More focused budget support linked to agriculture sector reform may be more appropriate, with particular attention to the reform of public institutions.

4.29 *Increase of water use fees at a pace consistent with ability to pay.* Increased user fees for irrigation should be a key element of future policy reform. WUA members themselves acknowledge the rationale for this and are willing to accept higher fees in return for improved water management and delivery. This should be pursued gradually, however, first because the establishment of WUAs is in its early stages, and second because little has been done to teach WUA farmers how to take advantage of their improved access to water, through new crops and better management systems.

4.30 Comprehensive proposals for new water legislation (Water Code) has been prepared as the basis for this change and should include recommendations on how to introduce and phase this increase. Approval of these pieces of legislation would help to build an agreement for reform between farmers and government, and provide a clearer path towards the long-term objective of transfer of responsibility for operations and maintenance to the private sector.

4.31 *Donor review of their support for public services in agriculture and rural areas.* Donor co-ordination entails agreement on future project design based on low-cost, highly targeted public services, or public-services that can feasibly be financed by private sector users. *A shift to program based lending* would help ensure coordination among donors, while positive incentives and support for necessary reforms in public sector institutions.

³⁶ While the resources released would account for less than 1% of the current budget expenditure, there is no justification to continue funding these activities.

Chapter 5. Towards a common agenda

Introduction

5.1 Three key documents have been produced in 2004, to guide agricultural policy formulation:

(1) The Presidential Decree on “New Directions and Measures of the Land and Agrarian Reform” (April 2004) - a presidential directive, which outlines the broad priorities and programs for future agricultural policy, and assigns responsibility for this agenda to different ministries and public agencies.

(2) *“The Agrarian Policy Concept of the Kyrgyz Republic to 2010,” prepared by the Ministry of Agriculture, Water Resources and Processing Industry (MAWRPI) and approved by the government in June 2004. It develops a conceptual framework for agricultural policy and agriculture sector development, and recommends a broad program of reform, in response to the Presidential Decree.*

(3) The World Bank Agricultural Policy Update, “Sustaining Pro-Poor Rural Growth: Emerging Challenges for Government and Donors” provides comprehensive empirical analysis of the level and sources of past agricultural sector growth, and the constraints and opportunities for future agricultural sector growth; and recommendations on the policies and programs which should be given priority in order to achieve sustainable growth.

5.2 These three documents provide a strong base for the design of future agricultural policy. But as they emanate from different sources, it is important to understand both the recommendations and conclusions they have in common, and the views and issues on which they differ. This clarifies the issues for future debate, and allows government and donors to move toward a shared vision of future agricultural policy.

Common Ground

5.3 *There is a strong consensus among the three documents on the following fundamental issues:*

(a) Recognition that sustained agriculture sector growth is essential for poverty reduction, and that measures to raise agricultural production and farm household incomes should remain a priority for government and donor activity.

(b) Recognition that land reform has been the key determinant of agriculture sector transformation and growth to date; and a commitment to complete the remaining elements of land reform (the privatization of remaining state owned arable land, the resolution of outstanding land ownership disputes, and support for the establishment of a land market).

(c) Commitment to a continuation of market-oriented reforms, with a concomitant withdrawal of the state from activities which markets can and should perform.

(d) A shared view that policy reform should continue to focus on land, public institutions (new roles, new structures and stronger capacity), and the development of policies and institutions which facilitate the growth of commercial agriculture production and agricultural markets.

(e) Recognition that a broad range of measures is essential to stimulate the rural economy and reduce rural poverty, encompassing both farm and non-farm economic activity.

Differing perspectives

5.4 Inevitably, there are differences in the conclusions and recommendations made by the three documents. Some of these differences are conceptual; others reflect differing views of the objectives, priorities and policies necessary for sector development. These differences are examined below.

5.5 Farm Size. There is widespread concern within government that the small farms created as a result of land reform will be inefficient and a constraint to sector growth. The Agrarian Policy Concept document expresses this concern directly, although it cites no evidence to support it. The Presidential Decree mandates government to “identify the optimum size of land plots for agricultural purposes.” In contrast, empirical analysis for the World Bank Sector Update shows that small farms have been the main source of growth and increased productivity since 1995, and that large farms have experienced a continuous decline in productivity. This document also concludes that there is considerable scope to further increase of productivity on small farms, by increasing crop and livestock yields and improving management efficiency. Land scarcity (as opposed to farm size) is identified as a constraint to growth, however, particularly for crop production. All three documents recognize that farmer cooperatives, the re-allocation of unused arable land, privatization, land markets and increased land and labor productivity are all essential responses to land constraints – however these constraints are defined.

5.6 While all three documents view land ownership and use as a key issue for the sector, the government pre-occupation with farm size and what constitutes an “optimal” farm size is a much narrower view of the problem. Elsewhere in the world, attempts to empirically determine optimum farm size have mostly been inconclusive, and the analysis is always time and situation specific. Such analyses also provide little guidance into the means to improve land and labor productivity and/or reduce land scarcity – which are the fundamental issues.

5.7 A broader view of land constraints is more likely to result in effective program and policy responses. In fact, all three documents implicitly recognize this in that they propose a broad range of policy and program responses (as noted above). In this sense the differing perception of land constraints may be less pronounced than it seems.

5.8. Food Security versus Food Self-Sufficiency. Food security is obtained when people have access to enough food to lead a normal, healthy life. It is thus primarily a function of incomes and food prices rather than food production. Low incomes or high food prices will lead to inadequate food consumption, even when there is enough food available to meet aggregate consumption requirements. Recently, food safety and food quality have also become integral to the concept of food security, as people realize that unsafe or low quality food also prejudices health and well-being. In contrast, food self-sufficiency is achieved

when a country produces enough food to meet its aggregate consumption requirements. It does not necessarily result in food security. Where the cost of producing this food leads to high food prices (above import prices), which are beyond the means of ordinary people, then food self-sufficiency can actually lead to reduced food security and increased poverty.

5.9 Both the MAWRPI Agrarian Policy Concept document and the World Bank Agricultural Sector Update identify food security as a fundamental objective of sector development. Closer reading of the Agrarian Concept document shows that government is actually seeking food self-sufficiency, however, and has yet to understand the differences between food security and food self-sufficiency, and their consequences for poverty. In contrast to the World Bank report, which emphasizes market-based incentives as the basis for production decisions by farmers; the Agrarian Policy Concept document proposes production targets and the designation of particular cropping regions and crops for support - reminiscent of central planning. The Agrarian Policy Concept document also advocates increased import protection as a further means to achieve food self-sufficiency. All of these measures would raise food prices, and so poverty and food insecurity, without necessarily raising production levels or achieving self-sufficiency. Such measures also distort markets and lower productivity, as producers would allocate resources in sub-optimal ways.

5.10 This underlying emphasis on food self-sufficiency rather than food security is a serious flaw in the Agrarian Policy Concept document. Unless it is resolved, it is likely to lead to policies and programs which will prejudice both growth and poverty reduction.

5.11 The Role of Government. Reform of public policies and institutions is one of the most difficult elements of the transformation from central planning to a market oriented economy. The Kyrgyz government has made substantial progress in this regard, but the process is still far from complete. A reluctance to change continues to slow policy reform, and strong vested interests continue to block essential institutional reforms.

5.12 These influences are evident in the Agrarian Policy Concept document. Despite claims to have fully liberated the old central planning policies associated with production and the provision and distribution of farm inputs; it proposes that government should make various “recommendations” to farmers to increase or decrease production of various crops, and/or to “stabilize” production of other crops. Other proposals for direct intervention in the sector include the construction of two sugar mills, and the public procurement of food. All of these measures are redolent of central planning and are incompatible with the broader, widely accepted objectives of reform.

5.13 Price and Incentive Policies. The Agrarian Policy Concept document also makes numerous recommendations related to import protection, taxation, and the regulation of food markets which would inevitably distort product markets and reduce efficiency. It would appear that the potential impact of these measures is still not well understood.

5.14 The Route to Increased Farm Productivity. While all three documents recognize the need to raise farm productivity and are firmly committed to achieving this objective, there are considerable differences in their respective approaches. Government continues to give priority to the genetic improvement of both crops and livestock as the basis for increased productivity, and to support for state seed and livestock breeding agencies as the vehicle for developing and delivering improved genetic material. Based on experience in other countries in transition, the WB report emphasizes other forms of technology transfer such as alternative crops, more effective fertilizer use, improved post-harvest technology, and improved animal husbandry and animal health. In the short to medium-term, such measures tend to be lower

cost and lower risk and generate higher returns than genetic improvements. For this reason, donors are also reluctant to support (directly or indirectly), state owned seed and livestock breeding enterprises. Genetic improvement does have an important role to play, but its impact is slower to manifest and it can be developed and introduced through private sector activity.

Conclusions

5.15 There is a strong, broad-based consensus between the three documents on the objectives of agricultural sector development, and the principal elements of a sector strategy. Inevitable differences exist, however, in the perception of problems and priorities, and in the recommendations on measures which should be taken to overcome constraints. Many of these differences will diminish as Kyrgyz policy makers become more familiar with the theory and practice of managing a market economy, and become more adept at adapting this knowledge to Kyrgyz conditions. Other differences derive from the tension between states and markets, which pervades all policy debate – in both developed and developing countries. Continuous interaction between donors and government, and constructive debate remains the best way to diminish and resolve these differences.

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ANNEXES

ANNEX 1: DECOMPOSITION METHOD

A simple statistical decomposition method was used to identify the contributions of different factors to post-1995 agricultural growth. The aim is to isolate the relative contribution of price, crop/livestock commodity mix, and yield to growth. The method used involves calculation of the change in total real gross value of agricultural production occurring when one of these factors (e.g. prices) changes while the others are held constant. The procedure is then repeated for the other two factors. This results in an estimation of the contribution of each factor to total growth over the time period of interest.¹

The basic data used for the decompositions include NSC statistics on crop area (or livestock commodity mix, in the case of livestock), real prices, and yields. Table 2.2 shows the commodities used in the calculations. While some agricultural commodities that Kyrgyzstan produces are omitted due to lack of data, those included represent a significant portion of total sector value added, about 80 percent). Table 2.2 shows the changes in these variables from 1995-2002. It indicates that almost all of them registered positive growth, with the exception of tobacco and wool, for which output declined over the period. This was accompanied by very small annual price increases, on the order of 1-2%. The best performers (in terms of increases in output as well as output value) have been oilcrops, sugar beets, vegetables, melons, fruits and berries, beef cattle, chickens and sheepmeat. Some of these commodities saw area (or livestock inventory) and yield increases, such as sugar beets. Others such as fruits and vegetables encountered flat or negative growth in area; this was counterbalanced by higher output prices.

The general tendency for crop growth to be driven primarily by yields and prices, and livestock growth by prices is also illustrated in the more disaggregated data presented in Table A.1. Looking at changes in average crop indicators between 1995 and 2002, average crop yield and output changes are three to four times of those for livestock (see bottom row of crop section, Table A.1), while livestock price increases have exceeded increases for crops by 50%.

The net effect of these favorable price and (for crops) yield trends is a 31% annual increase in real crop GVP versus a 19% increase for livestock. Looking at individual crops, all GVP increases are positive over the period except in the case of tobacco, for which production has been declining for several years. The biggest value increases are for sugar beets (due mainly to area and yield increases); oilcrops (mainly due to yield improvement) and vegetables and melons (price and yield increases outweigh reductions in area planted). All livestock GVP increases are positive except for wool, for which production is down 3% from 1995. Commodities increasing their gross value are poultry (due to across the board increases in yield, numbers of chickens, and poultry meat prices); beef (which sees large price increases accompanied by much smaller yield and herd increases), lamb and pork (inventory reduction with small yield increases and a very large price increase), and milk (small herd buildup and yield, but large prices increases).

These trends have not significantly increased crop diversification at the sectoral level. For crops, two commodities, grains and potatoes accounted for 59% of GVP in 1995, a share that fell to 54% in 2002. Milk and beef shares in livestock production value increased from 66% to 69% over the period. Diversification will take time but there is undoubtedly more that meets the eye in official

¹ Steven Block, *Decomposition of Agricultural Productivity in Kenya* (1995)

data. Some quality improvements through better prices have occurred and rapid increases have occurred in some previously nonexistent or small crops.

Table A.1: Changes in crop and livestock/livestock product indicators from 1995 to 2002

CROP PRODUCTION	<i>Sown Area, thousand hectares</i>	<i>Yield (centners per ha)</i>	<i>Gross output, thousand tons</i>	<i>Average real prices Som/Ton</i>	<i>Gross value of output, mln. Som</i>
Grains	2%	7%	13%	9%	31%
Cotton	3%	3%	6%	3%	10%
Sugar beets	15%	8%	55%	2%	66%
Tobacco	-10%	2%	-9%	2%	-9%
Oilcrops	2%	20%	37%	3%	49%
Potatoes	3%	9%	14%	0%	14%
Vegetables	-3%	11%	6%	20%	35%
Melons (edible)	-6%	26%	12%	19%	46%
Fruit and Berries	1%	8%	18%	6%	33%
Grapes	-0.2%	-4%	-2%	18%	15%
Avg. (weighted by value share)	2.4%	8.3%	16.5%	8.1%	31.2%
LIVESTOCK/PRODUCTS	<i>Livestock inventory, thousand heads</i>	<i>Yield or (tens of output units/head)</i>	<i>Gross output, thousand tons</i>	<i>Average real output prices Som/Ton</i>	<i>Gross value of output, mln. Som</i>
Cattle/beef and veal	1%	2%	3%	24%	33%
Pigs/pork	-4%	2%	-3%	22%	15%
Sheep/mutton and lamb	-4%	1%	-3%	34%	25%
Horses/horse meat	3%	12%	17%	-3%	11%
Chickens/poultry meat	9%	6%	19%	15%	53%
Milk cows/milk (liters)	2%	3%	5%	6%	13%
Chickens/eggs (millions)	9%	0%	9%	-4%	3%
Sheep/wool	-4%	1%	-3%	0%	-3%
Avg. (weighted by value share)	1.2%	2.7%	4.3%	13.7%	19.5%

Note: cropland shows a 2.4% increase over the period, but this does not take account of a reduction in area planted to fodder. Overall, area planted declined over the period.

ANNEX 2: FINANCIAL STATEMENTS OF HOUSEHOLDS (REGIONAL)

Table A.2.1 Balance sheets of households in different regions

January 1, 2003 (Som)

Sample	Regions							
	(243)	(223)	(198)	(74)	(286)	(197)	(279)	(1,500)
	Issyk-Kul	Jalal-Abad	Naryn	Batken	Osh	Talas	Chui	National
Assets								
Fixed assets								
House	55,077	80,516	46,483	93,649	120,720	44,406	93,938	77,970
Land	82,204	75,454	125,818	71,023	109,252	108,010	152,532	108,033
Livestock	23,560	16,451	46,136	25,770	23,999	25,144	18,870	25,011
Agricultural equipment	3,865	385	102	2,368	3,449	751	6,217	2,726
Consumer durables	1,334	546	631	993	875	723	1,132	902
Current assets								
Cash	1,565	1,846	768	1,910	2,150	1,822	1,946	1,735
Food stocks	14,903	7,425	4,136	8,845	7,719	14,189	4,869	8,741
Livestock feed and fuel	22,243	8,579	15,726	12,754	12,491	11,879	11,061	13,583
Accounts receivable	7	424	0	1,842	0	3,507	0	0
Other current assets	3,244	4,888	3,189	4,179	4,127	308	3,432	3,765
Total assets	208,002	196,514	242,989	223,333	284,782	210,739	293,997	242,466
Liabilities and household capital								
Debts, loans and credits	187	0	80	0	464	464	1,057	244
Household equity including retained earnings	204,412	192,156	241,697	212,862	277,728	206,703	286,514	237,426
	3,403	4,358	1,212	10,471	6,590	3,572	6,426	4,796
Total Liabilities	208,002	196,514	242,989	223,333	284,782	210,739	293,997	242,466

Source: NSC

Table A.2.2 Income statements of households in different regions

Som, January – December 2002	Regions								
	Sample	(243)	(223)	(198)	(74)	(286)	(197)	(279)	(1,500)
		Issyk-Kul	Jalal-Abad	Naryn	Batken	Osh	Talas	Chui	National
Sales	12,492	17,284	8,192	28,342	18,279	17,922	9,500	14,679	
including sales of agricultural products	7,477	11,284	2,966	16,096	11,639	14,801	4,142	9,008	
Cost of goods sold	4,078	5,828	4,922	6,883	7,259	2,444	5,390	5,224	
Gross margin	8,414	11,456	3,270	21,459	11,020	15,478	4,110	9,455	
Labor income	8,166	9,994	5,699	5,403	9,767	4,287	18,802	9,750	
including wage labor	7,883	7,767	4,560	3,762	8,007	4,178	17,119	8,479	
Other revenues/expenses from financial activity	0	-42	0	0	1	-5	156	22	
Pensions and other transfers	1,161	1,925	5,747	1,763	5,179	3,033	4,749	3,589	
Other revenues/expenses	293	391	333	288	154	248	494	318	
Expenditures on food	9,416	11,507	7,488	11,643	11,803	13,504	14,509	11,522	
Expenditure on other consumer goods	4,382	7,335	5,635	6,173	6,816	5,197	5,737	5,898	
Income before taxes	4,236	4,882	1,926	11,097	7,502	4,340	8,065	5,714	
Taxes and fees	833	524	714	626	912	768	1,639	918	
Retained earnings	3,403	4,358	1,212	10,471	6,590	3,572	6,426	4,796	
Memo Item:									
1. Food produced for own consumption	49,486	34,125	36,230	31,718	35,358	46,076	33,998	38,554	
2. Livestock sales (Net)	1,634	2,504	5,089	2,630	3,925	2,201	3,495	3,134	
3. Purchases of fixed assets and financial instruments (Net)	2,187	1,748	2,163	3,582	4,551	2,566	3,616	2,799	

Source: NSC

ANNEX 3: ASSESSMENT OF INDIRECT SUBSIDIES IN KYRGYZ AGRICULTURE

Agricultural Machinery

Before independence, most agricultural machinery was either leased or sold to kholkhozes and sovlkhozes by a central, state-owned agency with branches throughout Kyrgyzstan. This structure was re-established in 1997 as the state-owned “Ailtechservice,” with a mandate to provide farm inputs and services to agricultural producers, and to lease and sell farm machinery. The farm input delivery components of Ailtechservice’s mandate were dropped in 2000 and the agency’s role was limited to the sale, leasing and servicing of farm machinery and equipment. All shares are currently owned by the State Property Fund, but the objective is to privatize Aiviltechservice by 2006.

Current assets include 300 tractors and 100 combines (acquired since 2000), 60 trucks (mostly old), and a wide range of agricultural equipment. Approximately half of the tractors and combines are leased on 3-4 year contracts, and will be sold at the end of their contracts. The remaining machinery and equipment is hired out on short-term, piecework rates. Most of the tractors and combines are from Byelorussia, and the rest are from Germany. Other assets include the land and buildings of its 19 branches, one of which is a seed-breeding farm. In addition to the income from leasing, Ailtechservice also services and repairs farm machinery at its branch centers and sells spare parts. This activity is backed by an agency agreement to service Belarus machinery.

Ailtechservice lacks a sound financial basis for operation. Many of the tractors and combines acquired since 1997 have been financed with interest-free credit from Japanese Grant Funds. The last of these machines were acquired with a loan of 56 million som (\$US 1.1 million), borrowed in 2001 and repaid in 2003. Government also provides direct support, including 72 Belarus tractors acquired in 2002 through a government commodity (wheat) swap arrangement. The agency has had difficulty acquiring more tractors and combines since because Japanese Grant Funding has been stopped and commercial banks will not lend to it. Despite the low finance rates (3%-8% plus depreciation) that Ailtechservice is able to offer to farmers on the basis of interest free (Japanese Grant) credit, lessees struggle to meet their lease payments. Some 40%-50% of lessees are chronically in arrears, particularly for tractor leases where the relatively short-term (3-4 year) contract requires annual payments that exceed the income generated by most farmers. Current tax laws are also unsuited to leasing, as they do not allow for any exemptions on VAT.

During 1997-2002 the government spent US\$3.0-3.5 million per year acquiring new machinery for Ailtechservice to use and/or dispose of through lease contracts. There are two types of transfer inherent in this system. The first applies to the machinery given to Ailtechservice by government for leasing out on piecework rates, which is equivalent to approximately half of all machinery acquired (\$US 1.5-1.75 million/year). The Agency pays a nominal sum for this machinery, which allows it to charge low rates to farmers. The second applies to the transfers incurred through formal leasing contracts, which are probably no more than the commercial interest rates that could have been earned on the Japanese Grant Funds – approximately US\$150,000/year.

There is little justification to continue public support for this agency. The substantial transfers involved do little to ensure efficient use of farm machinery and inhibit the growth of private sector enterprises involved in farm machinery business. Without the means to re-capitalize, and lacking a financial product that is consistent with farmer means, Ailtechservice cannot survive as a leasing agency without high levels of government support. Its branch network should be broken up and privatized to form commercial farm machinery servicing centers, some of which could eventually expand to trade in new and used farm machinery and equipment. The resources used to support the agency should be re-allocated to either the MAWRPI budget or the KAFC.

ANNEX 4.1: POLICY DOCUMENTS

Bishkek, Government House
Dated April 17, 2004 PD N 142

Decree of the President of the Kyrgyz Republic on New Directions and Measures of the Land and Agrarian Reform

See:

The Resolution of the Government of the Kyrgyz Republic dated June 22, 2004 No 466 "On measures for implementation of the Decree of the President of the Kyrgyz Republic "On new directions and measures of the land and agrarian reform" dated April 17, 2004.

In the Kyrgyz Republic the land reform achievements have become the basic factor not only for the agriculture development, but also for the national economy recovery on the whole. Food safety of the state has been provided. For the first time in their centuries-old history the Kyrgyz citizens have received the land in a private possession.

With the purpose of effective and timely completion of the land and agrarian reform, in accordance with the Comprehensive Development Framework of the Kyrgyz Republic till 2010, I decree:

1. To identify as priority the following directions of the third, completion phase of the land and agrarian reform:

- large-scale development of cooperative societies;
- development of peasant (farmer) economy and agribusiness enterprises;
- introduction and development of credit cooperative system, mortgage lending, insurance in agriculture;
- identification of the optimal sizes of the land for agricultural purposes and their registration procedure;
- restoration and development of seed-farming and livestock breeding;
- development of the agrarian science, extension and marketing services;
- creation of the effective system of technical, agrochemical and zooveterinary services;
- development of the produce selling, processing and export system;
- improvement of the water and pasture resources management;
- rural social development.

2. The Administrative Office of the President of the Kyrgyz Republic jointly with the Government of the Kyrgyz Republic shall promote in the established order the adoption of the Law of the Kyrgyz Republic "On cooperative societies" by the Jogorku Kenesh of the Kyrgyz Republic.

See:

The Law of the Kyrgyz Republic dated June, 11, 2004 N 70 "On cooperative societies"

3. The Ministry of Agriculture and Water Resources and Processing Industry of the Kyrgyz Republic jointly with local state administrations and local self-government bodies shall develop and implement measures on development of:

- cooperative societies, peasant (farmer) economy and agribusiness enterprises;
- seed-farming and livestock breeding;
- agrarian science, extension and marketing services;
- technical, agrochemical and zooveterinary services' system;
- production sales and processing;
- water and pasture resources.

4. The Ministry of Finance of the Kyrgyz Republic jointly with the interested ministries and departments shall develop and implement measures on:

- taxation improvement in the agrarian sector;
- cooperative societies' crediting development and insurance
- business in agriculture.

5. The Ministry of Economic Development, Industry and Trade of the Kyrgyz Republic jointly with the interested ministries and departments shall implement measures on:

- development of exports of agricultural production and its processed products,
- construction of a mineral fertilizers plant.

6. The State Agency for the immovable property rights registration under the Government of the Kyrgyz Republic jointly with The Ministry of Agriculture and Water Resources and Processing Industry of the Kyrgyz Republic, local state administrations and local self-government bodies shall develop and implement measures on identification of the optimal sizes of the land plots for agricultural purposes and their registration procedure in all ayil okmotu of the republic.

7. The Government of the Kyrgyz Republic shall:

- conduct the work on transformation of the Kyrgyz Agricultural Financial Corporation into the rural bank;
- carry out measures on rural social development within the framework of the State Program "Comprehensive Rural Development till 2010";
- provide carrying out of the elucidative and organizational work
- relating to the implementation of the new measures of the land and agrarian reform, conduct hearing of the reports of heads of the ministries, departments, local state administrations, local self-government bodies on a regular basis and present the information on the work performance to the President of the Kyrgyz Republic;

8. Control over execution of the Present's Decree shall be assigned to the Prime-Minister of the Kyrgyz Republic Tanaev N.T.

President of the Kyrgyz Republic

A. Akaev

ANNEX 4.2: POLICY DOCUMENTS

**AGRARIAN POLICY CONCEPT
OF THE KYRGYZ REPUBLIC
TO 2010**

**Approved by the Resolution
of the Government of the Kyrgyz Republic
of 22 June 2004 No. 465**

ABBREVIATIONS

ADB	Asian Development Bank
AIC	Agroindustrial complex
APC	Agrarian Policy Concept
CDF	Comprehensive Development Framework
CIS	Commonwealth of Independent States
CLAR	Center for Land and Agrarian Reform
EUC	European Union Commission
JSC	Joint Stock Company
KAFC	Kyrgyz Agricultural Financial Corporation
KAMIS	Kyrgyz Agricultural Market Information System
KR	Kyrgyz Republic
KSAP	Kyrgyz-Swiss Agricultural Program
MAWRPI	Ministry of Agriculture, Water Resources and Processing Industry
NGO	Non-governmental Organization
NSPR	National Strategy of Poverty Reduction
RAS	Rural Advisory Service
CIDA	Canadian International Development Agency
TACIS	Technical Assistance to CIS countries
WB	World Bank
WTO	World Trade Organization
WUA	Water Users Association

1. Introduction

1.1. Needs for adopting Agrarian Policy Concept

Strategic goals, priorities and directions of the social, economic and political reforms, outlined in program documents and carried out by the political governing bodies of the country, the ultimate goal of which is ensuring of adequate living standards of each citizen of the Republic, require specific measures under each sector of the national economy.

In this connection the necessity to develop considered and realizable Agrarian Policy Concept (hereinafter – “Concept”) has emerged. It should reflect ways and methods of implementing main provisions of the earlier adopted national programs – Comprehensive Development Framework and National Strategy of Poverty Reduction. The elaboration of the Concept was based on the Decree of the President of the Kyrgyz Republic “On new trends and measures of the land and agrarian reform” and Memorandum between the Kyrgyz Republic and International Monetary Fund on macroeconomic development.

In developing the Concept, following points have been taken into account:

- the basic feature of the current situation is that the first phase of the land and agrarian reform in Kyrgyzstan has been successfully completed. As a result land obtained its owner, became an object for transactions, market relations were introduced in agriculture. However further development of the agrarian reform requires new approaches. Therefore elaboration and implementation of a new agrarian policy is required, which would logically carry on main ideas of the first phase of land and agrarian reform, and identify priorities and directions of the agroindustrial complex development, structural, financial-credit policy and normative-legal basis of the reforms for the forthcoming period;
- to date the Government has fully liberalized policy of centralized planning and distribution of material and technical resources and produced output. At the same time the Government should have regulating impact to provide assistance to business entities in products’ production and sale, in establishing preferential terms on taxation, crediting, and in providing extension services and other support services;
- during the land and agrarian reform implementation more than 286 thousand peasant (individual) farms, cooperatives and different unions have been established. More than 77 percent of all land was transferred to them for private ownership. At the same time absolute majority of these farms is small-sized and inefficient as a farming structure;
- the economy of the country as a whole, including agriculture, experience difficult transitional phase in its development stage and at present the Government doesn't have an opportunity to subsidize agriculture in full capacity. Because of scarce financial and material resources it is impossible to develop all branches of the agroindustrial complex at once, and selective and project approach is required, taking into account existing and planned state programs and assistance strategy of the international donor organizations.

1.2. Goals of the Concept development

The main goals of the Agrarian Policy Concept development are the following:

- concrete definition of the Government's role in implementing agrarian policy under market reorganization of the economy and management democratisation;
- determination of priority directions of the development of agroindustrial complex of the country;
- determination of interrelation between the state bodies in ensuring sustained functioning of agriculture, water resources and processing industry, and further promotion of reform;
- interaction of the Government with other subjects – participants of the agroindustrial complex development in implementing the agrarian policy: private sector, foreign investors, donors, non-governmental organizations etc.

This Concept emphasizes its task in achieving the above goals, and first of all focuses on regulating market in the agroindustrial complex. Today the Government can't use solely administrative measures in supporting agricultural producers, but proceeds to using definite measures of affecting markets for products produced by them.

The Agrarian Policy Concept is supposed to be used in particular as:

- a policy tool for the state decision makers;
- information for donor institutions and investors, so that they may support priorities in the agrarian sector;
- reference for the private sector, in order to enable them to foresee the business environment, to select production activity;
- information for the population and the public on the role of the Government in implementation of the agrarian policy.

2. Current Situation

2.1. Land and agrarian reform and restructuring of agricultural enterprises

For the recent years quite considerable progress has been achieved in the republic in carrying out land and agrarian reforms. Average annual growth of gross output in agriculture has constituted 6%. In 2003 more than 90% of agricultural products have been produced by the private sector, and peasant and individual farms amount more than 44%. More than 286 thousand peasant (individual) farms, about 700 different unions have been established, including 462 cooperatives. As a result self-sufficiency on different kinds of foodstuffs has been ensured, allowing to address main tasks related to the food security at the level of minimum requirement of the population.

Small peasant and individual farms are the main producers of agricultural goods. Nature of agribusiness management is being improved; financial responsibility for its results is increasing.

Market mechanisms of farming are being developed, private land ownership has been introduced in the Constitution, and Law on Agricultural Land Management stipulating for land transactions has been passed. Activities on developing land registration system commenced.

The new Land Code of the Kyrgyz Republic promotes the settlement of land disputes in the court and ensures creation of arbitrary procedure as an alternative method with the view to settle the land conflicts.

However during the period of the republic formation the agricultural sector has experienced very complicated transitional period process in search of new management and ownership forms. Reforms had been carried out in terms of lack of experience, legislative basis and normative materials in full capacity, especially at the starting point. That is why while reorganizing former kolkhozes and sovkhoses unjustified delay took place, particularly in Chui oblast, that brought to conflict situations, rural people being dissatisfied in getting land and property shares.

2.2. Food security

According to the Roman declaration adopted on 17 November 1996, Kyrgyzstan as a member of world community, took responsibility to “pursue a policy towards extirpation of poverty and inequality, guarantee of physical and economic access for everybody and at all times to sufficient, dietetically adequate food stuff, and also its use”.

The Government of the Kyrgyz Republic jointly with the European Commission in the Kyrgyz Republic developed National Policy of food security of the Kyrgyz Republic, approved by the Government in 1999.

In spite of some objective problems Kyrgyzstan provides itself with the main kinds of agricultural products, including meat, milk, vegetables and partly – with grain.

At the same time low quality of products, continuous rise of population demand and foodstuffs' prices, low income, insufficient level of export, growth of food import make difficult to ensure the food security of the country at the level of consumption standards.

In general the republic doesn't supply itself with such essential products as sugar and oil. Wheat production is not competitive; its quality does not meet standards and leads to involuntary procurement of flour or hard wheat from Kazakhstan.

Food security as one of the main state priorities could be achieved with enough production. At the same time even sufficient production of foodstuff will not solve the problem with malnutrition if poverty isn't reduced and purchasing power of the most vulnerable population is insufficient.

2.3. State regulatory policy

Considerable changes took place in approaches to the state regulation of agrarian sector on republican and regional levels. State authorities shift from direct intervention in production processes and business activity management to economic methods of regulation. Arsenal of such measures of the agrarian policy is being improved more and more and enriched with development of market relations. Structural changes happened within the agricultural institutions, in the Ministry of Agriculture, Water Resources and Processing Industry of the Kyrgyz Republic itself, and their functional responsibilities have being revised.

Rural commodity producers were indirectly supported till 2003 through exemption from all taxes except land tax. The Government of the Kyrgyz Republic, World Bank, Asian Development Bank provide acceptable financial-credit assistance to agrarian sector through the Kyrgyz Agricultural Financial Corporation and by supporting credit unions.

As far as possible the Government of the Kyrgyz Republic provides support to farmers through allocation of seeds, material and technical resources, commercial loans and grants. Annual Republican budget provides means for operation and maintenance of water facilities, plant protection and quarantine, improvement of epizootic situation.

Rural Advisory Services and Kyrgyz Agrarian Market Information System (KAMIS) established in all regions, play significant role in providing farmers and peasants with required information.

The main task of the Government is to inspect and examine coming from abroad loads subject to quarantine, and also implementation of international quarantine rules while exporting goods. For the last three years agricultural, forests and other crops (land) at more than 100 thousand ha have been examined, allowing Quarantine Services to control phytosanitary (quarantine) condition of the Republic. In this regard considerable work has been conducted on establishing international links. Intergovernmental agreements (conventions) "On collaboration in plant quarantine" have been concluded between the Kyrgyz Republic and Moldova, Kazakhstan, Tadjikistan, and Uzbekistan.

In spite of insufficient financing of antiepzootic measures, veterinary specialists of the Republic conduct required preventive measures that enable to prevent beginning and spreading of many dangerous infectious animal diseases.

New draft Law on Veterinary was developed, stipulating for a number of new provisions on veterinary services, veterinary control and financing of the Veterinary Service. This draft law was developed taking into account international requirements and is approved by the international Epizootic Bureau.

The Government also supports arrangements directed towards rehabilitation of waterworks facilities, water-supply, development of agricultural support services through allocation of means under projects implemented by such international donor organizations as World Bank and Asian Development Bank.

2.4. Major problems in the current agrarian sector of the economy

In general all problems are subdivided into five groups:

1. Poverty of rural population.

The acute problem is hard financial condition of rural commodity producer, characterized by:

- small cash revenues from the products sale because of low price level and limited market;
- shortage of own working capital for seasonal financing of production and shortage of bank credits;
- high indebtedness, mainly on incentive state loans, grants of the Government of Japan, payments in budget of all levels.

Today problems of rural development are not only of economic nature, but they also have negative impact on rural social development. Complexity of the problem is that there are no other sources of income in rural areas except agricultural activity. It does not allow business entities to support rural infrastructure and provide support in its development.

2. Food security.

Today majority of population especially in rural area doesn't have enough income to buy and consume foodstuff to ensure required energy needs. In 2002 consumption of calories (day/per capita) constituted 2123 at the norm of 2249 calories.

It should be necessary to mention negative tendency towards annual deterioration of baking qualities of the bread-wheat produced by peasant farms that decreases competitiveness of breadstuffs, which could lead to dependency of Kyrgyzstan with regard to the main foodstuff.

3. Natural resources and their rational use.

The most actual problem is land degradation. At present about 100 thousand ha of land are outside of agricultural activity. Extraction of nutritive components from the soil exceeds by 4 times their application along with fertilizers. Reclamation systems are declining, areas of soil corrosion are increasing. Besides one of the strongest factor of arable land degradation is soil deterioration with weeds and pathogenic organisms of the crops.

Water resources are used irrationally. Genetic resources are gradually declining. All these factors bring to yield decreasing and natural disasters.

Insufficient financing of veterinary services could lead to objectionable consequences of epizootic situation and outbreak of animal diseases.

4. Agricultural production and marketing.

Because of low profitability of production, production-technical capacity in the agriculture decreased. Lack of required cash inflow led to multiple reduction in the procurement of new equipment, machinery and physical depreciation of main assets of agricultural enterprises. Therefore even under increased demand for domestic foodstuff its production growth will be restrained by limited resources.

Availability of a big amount of small farms, worsening of management skills in rural area, domination of primitive farming methods resulted in many respects in deterioration of agricultural products' quality.

Intersectoral disparity of prices and income remains to be an unsettled problem. Under economy liberalization environment the agriculture has become especially unprotected from monopolized resources' suppliers. Price pressure caused by intermediaries and dealers led to multiple reduction of the share of agricultural producers within retail price of final product.

5. Sale and export of agricultural products.

Problem of export for domestic producers was aggravated by foreign foodstuff expansion. Also, non-competitiveness of products because of their low quality, lack of comparative advantages of production and processing makes difficult addressing of problems related to products marketing and export. Interregional trade barriers (particularly with neighboring states) have a negative impact on food market development, hampering access of commodity producers and restricting export of agricultural products.

Solving of export and marketing problems is impeded by high cost of internal and international traffic, high travelling dues, blackmail both in the country and outside.

One of reasons of the above problems is that neighboring countries are not WTO members, therefore they don't follow WTO rules on stimulating trade by setting up agreed tariffs.

6. General problems.

Lack of sufficiently effective state and non-state systems of the foodstuff market regulation. Old administrative-distribution authorities are eliminated, and new mechanisms corresponding to modern conditions of economy functioning are not developed yet. It complicates formation of unified market space and leads to considerable losses for the agriculture and population.

Problems with demographic and personnel capacity, shortage of specialists and managers, inappropriate level of management, organizational and consultative work on development and functioning of new market structures.

Problem with financial support to agriculture. Low access of rural population to credits. Lack of insurance of agriculture.

3. Strategy for the Concept goals achievement

3.1. Main goals of development of agrarian sector of the economy

Main goals of development of agrarian sector of the economy are the following:

- sustainable provision of the country population with valuable foodstuff, and industry with raw materials;
- preservation of sound ecological environment and ensuring of food safety;
- ensuring of marketing and export of agricultural products and processed products.

3.2. Strategy for development of agrarian sector of the economy

3.2.1. General strategy

3.2.1.1. Poverty reduction

State policy on poverty reduction for a long-term period is impossible without strengthening market relations in the area of production and processing of agricultural products, rendering of agricultural services, and growth of peasants and farmers income, and it should be supplemented with social protection measures of vulnerable population.

To fulfill tasks of poverty eradication in rural area it is necessary to:

- ensure development of legal basis and introduction of insurance system for agricultural crop yield, and develop insurance system in agriculture taking into consideration market conditions;
- stimulate development of credit cooperation;
- eliminate administrative restrictions on import and export of agricultural products and foodstuffs;
- ensure equality of market subjects and transparency in transit of goods;
- increase employment of rural population by developing more favorable business environment to establish small and medium processing enterprises;
- promote economic growth of the agroindustrial complex branches through support of import substitution and expansion of export;
- set up favorable environment to attract private investments into agricultural production, production of equipment and machinery for the agroindustrial complex, expansion of agricultural machinery and equipment leasing for the processing industry;
- promote complex of arrangements on construction and rehabilitation of irrigation and drainage facilities, implementation of agrotechnical, erosion-preventive and other activities;
- implement system of measures on procurement of foodstuff under the state requirements mainly from domestic producers;
- keep on establishment of training and advisory centers on providing support to the regions in deepening reforms in agroindustrial production and personnel retraining;
- promote strong linkages between urban and rural communities to develop non-agricultural profitable activities in rural area.

3.2.1.2. Development of land and agrarian reform

Land and agrarian reform remains to be a priority task for the nearest future despite the fact that the main objective of the reform, that is private land ownership, has been achieved and land has become a private property of business entities.

Work should be continued on formation of land market and its efficient functioning that stipulates for further deepening of land and agrarian reform, concerned with introduction and development of private market and lease relations, mortgage crediting, where land should serve as a main collateral.

Besides it is necessary to conduct work to determine further policy related to landowners, land size optimization, and increase of farming efficiency. To get adequate information, primary registration and analysis of the land and agrarian reform should be properly maintained in future at the level of business entities and aiyl okmotu.

Farmers and peasants should be guaranteed easy access to necessary information through establishing extension and information services and centers for agricultural development.

Primary role in implementing the above tasks should be given to the Republican Center for Land and Agrarian Reform (CLAR) operating within the MAWRPI, and its regional subdivisions. The main tasks of the CLAR should include monitoring of the land and agrarian reform's progress, privatization of agricultural enterprises, adoption of measures on settling conflict situations related to land and property shares.

Taking into account that about 80% of conflict situations arise from the lack of legal knowledge among farmers and peasants, it is important that they are guaranteed access to legal assistance. With the purpose of protecting interests of farmers and peasants, activities will be continued on objective and independent legal extension, assistance and representation services to guarantee an impartial and accurate application of the Land Code of the Kyrgyz Republic and agricultural legislation.

3.2.1.3. Farm development

During the second phase of the land and agrarian reform mainly structural reorganizations of farms will be completed.

Most of newly established small peasant farms experience considerable difficulties in agribusiness management on their own. In dealing with this problem essential role should be given to establishment of different kinds of cooperatives and other forms of associations.

As practice showed small peasant and individual farms are not able to apply high technology of production because of the small size of the farms, low income and lack of high quality agricultural machinery. Therefore introduction of cooperative farming methods is dictate of the time. At that joining into cooperatives should be done on a voluntary basis. Being a member of cooperative peasant should remain the owner of his land and means of production. Cooperatives should mainly cover support services, processing and marketing of products. Besides joint activities might be implemented in seed production, genetic resources, some kinds of profitable agricultural crops and animal husbandry. Joining into cooperatives should be based firstly upon joining of interests.

In this regard the role of the Government consists in ensuring of legislative basis, development of information-explanatory system, guarantee of observation of the rights and legal interests of peasants. At the same time other forms of farming are eligible for existence and support from the Government and investors.

Structural changes will also affect processing industry through modernization of processing enterprises, establishment of vertically integrated structures joining interests of producers and processors of agricultural raw materials. The Government should become an intermediary in ensuring pursued economic policy in development of legislative basis, attraction of direct foreign and domestic investments, providing extension and information services.

3.2.1.4. Crop production

Production of various agricultural crops is a prerogative of selection by private sector taking into account its profitability. At the same time the Government provides in this sector its strategic vision based on food security program, natural-climatic conditions of the country and comparative advantages of growing one or another agricultural crop.

Bearing in mind oversaturation of arable land by cereal crops, peasant farms will be recommended to decrease cereals sown areas in the nearest future and use high technology of grain production allowing to increase its yields by 35 centers/ha in the initial period and later - 50 centers/ha. Such an approach will result in not more than 500,0 thousand ha under cereals and gross output reaching 2,5 million tones by 2010.

However, this prognosis is possible on the stipulation that a number of measures on intensifying production of grain is implemented, especially issues related to seed development and provision with high quality seed material, organic-chemical auxesis etc.

After putting into operation capacities of the JSC “Ak-Suisky corn processing and sugar plant” and with increase in livestock population, sowing of corn for grain will have a tendency towards increasing, as it is a valuable food-forage crop and important raw material for processing industry. In future the Government will support any initiative on increasing corn sown area and its yield. Production of seeds of high yield domestic corn hybrids having high potential crop capacity will be also promoted by the Government.

As long-term practice and market opportunities show cotton and tobacco crops should get stabilized at the existing level, and increase in their gross production should be reached solely through increase of yields by introducing progressive growing technologies, developing efficient and mainly primary seed growing, improving selection work with a new domestic cotton varieties. Because of mineral fertilizers and pesticides shortage and their expensiveness it is necessary for farmers to grow the organic cotton that will allow to have a new market entry and increase income.

To get higher income from tobacco leaves production agricultural institutions will undertake measures on attracting investments into construction of cigar factories to export finished products rather than raw materials. On the other hand measures will be also undertaken to set up production consortiums involving cigar factories of the Russia, Byelorussia, other CIS member countries and producers of raw materials in the Kyrgyz Republic. In general tobacco production, primary processing and marketing issues should be a prerogative of farmers and peasants, and the

Government's role consists in providing advisory services and assistance in making business plans, marketing of produced output, supplying with new production technologies and seeds.

To fully satisfy population demand for sugar and decrease dependence on import for the forthcoming period it should be necessary to increase sown areas under sugar beet. Sugar beet production is concentrated mainly in Chui and Talas oblasts. The task lies in extending its production in future in Issyk-Kul, Osh and Jalal-Abad oblasts. However taking into account highly utilized capacity of existing sugar-refineries the Government should envisage construction of two sugar-refineries in these regions attracting investments.

Considering demand of some CIS member countries it is necessary to resume growing of sugar beet seeds with the previous production volume, and its commercial marketing to neighboring countries will enable Kyrgyzstan to get substantial inflow of foreign currency, and business entities - to get essential profit.

Abrupt growth in production of potato and vegetables, and related problems with their marketing and processing, don't presuppose increase in their sowing in the future. Priority will be given to yield increase, growing of early potato and vegetables varieties, and diversification through import of high-yield seeds from other countries. The Government should promote the establishment of Vegetable and Potato Growers' Association, which will conduct private activities on organization of new seed farms and strengthening of the existing ones, promotion of processing to get finished product, and its marketing.

Horticulture and viticulture should take deserved place in crop production branch, taking into account their comparative advantage and export oriented qualities. Agricultural institutions will strengthen extension activities and training courses for peasant farms intending to develop fruit and wine growing. It will be recommended to allocate land area to local fruit-growers out of the Agricultural Land Reallocation Fund on a tender basis.

With the aim of increasing profitability of existing business entities and increasing yield in future preference will be given to growing of legumes, such as French bean and soy. Main work in this direction will be done to spread experience accumulated in Talas oblast that requires at the initial period a special attention from the Government side in promoting sale and export.

In developing seed production of agricultural crops, production activities and marketing issues will be gradually transferred to the private sector. In this regard in future it is planned to keep 10-20% of state-owned seed farms mainly for organization of seed selection, production of seeds in nurseries, elite and super elite seed reproduction, while giving preferences in other respects to the privately-owned seed farms. It is necessary to ensure proper marketing of agricultural seeds and fix particular seed farms to the peasant and individual farms.

At the same time the Government should improve certification system and increase responsibility of the laboratories for identification of seeds' quality. Besides the private sector will be provided technical assistance to resume growing of perennial seeds and their import to the Central Asia and Russia.

To speed up seed production development it is envisaged to use experience and recommendations of such donor organizations as the World Bank, TACIS, and CIDA, implementing projects on seed development.

3.2.1.5. Animal husbandry

Taking into account that livestock breeding is a traditionally profitable agricultural activity for the Republic, its relatively simple technology and availability of highly productive pastures, an intensive increase of livestock population is envisaged.

As tendency shows relevant development of sheep husbandry_(meat direction as a priority) is anticipated as well. With the increase of sheep population and improvement of breeding quality it is planned to promote higher production and export of mutton. This branch should gradually become a dominating one in activities of the Sheep-breeders Association of Kyrgyzstan. Using commercial approach under real state of the market, wooly sheep direction could be further developed. Two established private farms on breeding Australian merino sheep – in Talas oblast “Altyn Zhun”, and in Chui oblast “Erlan A”, will be reorganized in future into breeding plants, that eliminates the need for expensive import of pedigree sheep. It will also enable farmers/sheep-breeders to develop business on producing fine-fleeced wool both for export and internal consumption.

At present along with sheep husbandry goat husbandry is being also developed with the assistance of international donor organizations. Goats are mainly bred in Batken, Kadamdjay, Lyailyak and Aksy raions. Further spreading of goat husbandry is planned in several regions of Issyk-Kul and Naryn oblasts. Perspective development of goat breeding farms is incorporated into the International Program “Year of Mountains” to be launched in 2004 with the support of foreign investors.

Horse husbandry is a traditional sector of animal husbandry in the Republic. In future in line with productive horse husbandry it is anticipated to develop breeding for racing and draught needs. For these purposes it is planned to attract investors to set up joint ventures on breeding thoroughbred horses for their further export to foreign markets.

Yak husbandry will contribute much to meat production growth and use of mountain pastures. Program on the development of this sector will take into consideration growing demand for ecologically pure product. The Government should assist in every way private individual farms in yak husbandry and acknowledge the priority of this branch.

Poultry production will be developed in future as well through proper privatization policy. This branch will be placed on an industrial basis. In this regard it is anticipated to make technical re-equipment and modernization of the existing poultry farms by attracting investors and establishing joint enterprises on meat and eggs production that will reduce their import.

Relevant development is planned for fishery and apiculture. Further strengthening of these sectors will be provided through improving organization of structural subdivisions on a private basis, associations, establishment of their normative-legal basis and financial support.

To promote breeding activities it is anticipated to reorganize state breeding plants into private individual breeding farms, and state breeding enterprises into private companies on artificial insemination and breeding stations. Along with this it should be necessary to register both state and private agricultural pedigree cattle, and develop private selection, pedigree activities through associations and cooperatives of private cattle-breeders and farmers.

In the nearest future practical measures should be undertaken to implement developed program on creating new milk and meat cattle breeds. Operation of the Central-Asian Breeding Service set up within the Kyrgyz-Swiss Agricultural Program should be continued under implementation of the Program “Milk” that will bring to substantial improvement of cattle pedigree and productive quality.

3.2.1.6. Processing industry

Processing industry is strategically significant branch of the Kyrgyzstan economy that should play an important role in developing the whole country economy. By 2010 this branch should become a catalyst of the whole agrarian sector development. Due to the weakness of this branch today only 15 percent of agricultural products is being processed.

For the forthcoming period it should be necessary to set up appropriate environment for processing enterprises providing them access to credits at acceptable rates to invest in technical re-equipment of enterprises and their re-orientation towards production of products competitive not only at the domestic but at the foreign markets as well. In future credits will be given first of all to small and medium private or cooperative enterprises processing products for export or import substitution. It is planned that investments will be strictly used according to business plan.

To organize profitable business and competent management in this branch an adequate training of production managers should be implemented. To achieve this task in a full range it is planned to use capacities of the World Bank Project on Agricultural Marketing and Agribusiness Development and the component of the on-going ADB Agriculture Area Development Project.

Based upon economic analysis of this sector enterprises processing the following products could be profitable at the export market: cotton, potato, tomato, fruits, oil-bearing crops, meat, French bean. These products have comparative advantage and are competitive at the CIS countries market.

It is also necessary to arrange research activities on markets, range of goods and prices to provide information to processing enterprises and rural producers.

Major part of processed products will be exported to the CIS member countries. For this purpose agricultural bodies have to take measures to remove existing impediments and barriers in transporting goods both in the country and outside.

3.2.2. *Strategy for ensuring food security*

3.2.2.1. General strategy for ensuring food security

An important aspect in the development of agroindustrial complex is ensuring of food security in the Kyrgyz Republic that implies the following:

- availability of foodstuffs at the markets;
- stable provisioning with foodstuffs;
- foodstuffs should be safe and of acceptable quality;
- ensuring of physical access of each citizen of the Republic to foodstuffs through increase of the population purchasing power.

Developing the policy of food market regulation, the Government should base on possibility of increasing domestic production. In the nearest decade internal demand for food and forage grain, poultry meat, eggs, milk and dairy products, vegetables and potato will be fully satisfied due to own production. The Government should take measures to form specialized production zones for these products and introduce reasonable trade protectionism, which does not allow dumping at domestic market by foreign importers and unfair competition.

During 2004-2010, preconditions will be created to increase competitiveness of domestic production of ecologically pure lamb, beef and other meat products. Reasonable balance must be maintained in use of imported and domestic raw material in sugar and vegetable oil production.

Settlement of problem of the country food security is closely connected to mutual relations outlook in the reached agreements on collecting custom duties, taxes and transit of goods with such neighboring countries as Uzbekistan, Kazakhstan, Tadjikistan and Russia.

Besides the Republic should take an active position in establishing common CIS agrarian market, so that its member countries could deeply specialize in agricultural production.

3.2.2.2. Support services

Intended growth of agricultural production in 2010 and related drastic changes in the activities of the main agricultural branches require proper development of support services.

The Government should promote setting up of private agrochemical and agrotechnical services countrywide, ensure unhampered sale of mineral fertilizers, chemicals, pesticides, agricultural tools and spare parts to the agricultural machinery. For that purpose machine-tractor workshops, warehouses and other material and technical resources available in the Republic should be used.

Donor-supported projects being currently implemented by the Ministry will play a significant role in the development of agricultural support services.

Veterinary service

Big role in improving preventive and treatment activities in animal husbandry should be given to private entrepreneurship. Private veterinary specialists should be supported and provided with licenses. Further strengthening of material and technical capacities and equipping of veterinary laboratories through annual state allocations is required.

It is anticipated to develop biological industry of the Republic to ensure timely and systematic supplying with biological veterinary medicines.

Agrochemical service

State inspectorate for chemicalization and plant protection is entrusted with tasks anticipating supply of rural producers with agrochemicals, organization of agrochemical services, forecasting of pests and weeds. In perspective it is necessary to improve work ensuring the state control over use of pesticides, certification of agrochemicals and agricultural products, licensing of agrochemical

activities of juridical and physical persons, registration of pesticides. Special attention should be drawn to dangerous pests, plant diseases and weeds control.

State inspectorate for chemicalization and plant protection focuses its activity towards equipping chemicalization and plant protection service with new laboratory equipment.

Technical service

Leasing of agricultural machinery will be widely used with attraction of international leasing companies and firms mainly from the CIS countries.

Industrial enterprises of the Republic should be attracted to restore and produce new spare parts, aggregates/assemblies to the tractors and agricultural machinery as well as to produce mini-scale machinery and agricultural equipment. Long-term program on production of agricultural components, assemblies should be developed for industrial enterprises and relevant contracts on their production and sale should be concluded between enterprises and consumers.

Seed service

Private and state seed farms should concentrate more on growing seed and planting stock using modern technologies on virus-free and hybrid basis with a high level of hybridity resistant to diseases and received using cellular meristem crops.

Variety testing structures should complete transfer of the regional variety centres into variety testing stations maintaining primary multiplication of seeds and planting stock of perspective agricultural crops. To increase reliability of variety testing results, financing should be provided to strengthen material and technical basis of the stations, and seminars and trainings should be conducted to study new varieties, variety agrotechnique and variety policy.

Seed Inspectorates should keep on improving seed potato and certification of seed and planting materials.

Organizational measures should be taken to establish specialized seed firms, cooperatives and associations based on existing corn-calibration plants, Lucerne seed dressing stations, enterprises on underworking seeds of vegetables, melons and gourds, tobacco, sugar beet, and nurseries.

Services of financial credit institutions

Rural crediting should play an important role in increasing efficiency of agriculture and decreasing poverty level in rural area.

Augmentation of rural banks' quantity through attraction of foreign and domestic investments should result in sound competitiveness and increased access of rural producers to credits. This task should be a basis for the agrarian policy of Kyrgyzstan taking into account positive experience of KAFC operation and many other credit unions, established under the Project "Rural Financial Institutions". In future these and other financial credit institutions should be reorganized into bank institutions being the main instrument of the agroindustrial complex development. It is necessary to widely introduce mortgage lending and financial leasing on paying agricultural machinery and

equipment services for the industry. Further development of land market will result in land being the main pledge for credit recipients.

Educational, advisory and information services

Ensuring of food security is impossible without rendering educational, advisory and information services to rural producers. Conduction of Extension and Farmers' Days, training for farmers; organization of exhibitions and demonstration sites to spread innovation and advanced knowledge; organization of conferences and workshops – are priority tasks of the Government, donor and non-governmental institutions. In this regard network of established Rural Advisory Services will be broadly expanded. Farmers and rural citizens, especially the poorest ones, should be supported through providing them on places with applied knowledge on production technology, agrobusiness, rural handcraft that would finally affect level of income among rural population.

To ensure timely and reliable provision of information, it is planned to set up a computerized network in the Republic offering the latest data on market situation and prices. In this respect the role of KAMIS will be enlarged in providing peasant and private farms with timely data on demand for products, prices both at the external and domestic markets.

3.2.3. Strategy for ensuring safety of resources and foodstuffs

3.2.3.1. Protection of soil, plant and pastures

To prevent deterioration of soil fertility, proper strategy for rehabilitation and maintenance of soil fertility should be elaborated, in particular correct use of chemical and organic fertilizers. At the same time it should be taken into account that fertilizers' import, production and marketing should be with the private sector. As the chemicals are harmful for people health and environment, it is necessary to strictly regulate their production, import, marketing and use. For the same reason there is a need to draw attention towards comprehensive measures on pests and weeds control that should be a part of strategy of plant protection while conducting pilot tests in farms, technologies demonstration and farmers training.

Taking into consideration an importance of animal husbandry development for the agrarian sector, it is necessary to rationalize the system of pasture resources management. Improvement and use of pastures should be done through gradual shifting of individual and peasant farms towards new technologies of cattle breeding. For these purposes the Government should subsidize project expenditures to form several demonstration cultured pastures in 2 or 3 oblasts, so that by 2010 such pastures could function in each raion.

3.2.3.2. Veterinary control

Preventive measures should be activated to protect cattle and poultry of such disease as tuberculosis, brucellosis, anthrax, and other viral diseases. In this regard an important consideration should be given to improvement of co-ordination between the ministries and agencies, mainly between the MAWRPI and the Ministry of Health Care of the Kyrgyz Republic on prevention of animal diseases that can infect people. With these purposes it is reasonable to develop program on extermination of epizootic animal diseases. Though veterinary services should be provided by private veterinary clinics, there is a need for the Government's participation in controlling dissemination of animal diseases, veterinary diagnostics, inspection of products quality, regulation of private veterinary clinics operation, researches, education, and training of personnel. Veterinary specialists should get

an access to credits and international donor programs to purchase required equipment and conduct relevant trainings, which will promote sustainable use of gained knowledge and skills.

3.2.3.3. Protection of water resources

Sustainable development of agricultural production at a great extent will be caused by relative level of water resources development. For that purpose a number of following measures on reforming and development of water relations should be undertaken.

1. To establish legal and normative basis stimulating development. Water Code of the Kyrgyz Republic, Law on procedures and terms of fixing and collecting payment for use of water objects and water resources, Law on fixing tariffs for services on drinking water delivery should be passed, and other normative acts as well to promote their implementation.

2. Institutional reform of water relations should envisage management decentralization, transferring economic functions to basin, territorial and municipal levels and private sector, as well as deregulation of the economy by thesis “market – as far as possible, state – as far as necessary”. To implement this thesis it will be necessary to introduce corporate management of waterworks facilities based on associating independent subjects of water use. Most funds of water management infrastructure (except strategic facilities) should be transferred to private water users through privatization. The state will promote formation of developed structure of Water Users’ Associations at local, regional and national levels. Under the World Bank On-farm Irrigation Project it is anticipated to launch works on development of 160 Water Users’ Associations with the rehabilitation of their irrigation facilities at 160-200 thousand ha. During the next 5-7 years about 500-600 WUAs will be set up all over the Republic.

3. Priority measures include rehabilitation of irrigation facilities, renewal of productive fund of water resources, which is planned to implement under of the World Bank Irrigation Rehabilitation Project and credits of the Government of Japan. It will ensure guaranteed delivery of irrigated water at 345 thousand ha and increase water supply to bigger land area. Implementation of the ADB project will ensure sufficient improvement of 55 thousand ha of irrigated land in Chui oblast and settle a number of other relevant issues.

4. Economic mechanism of water relations should be reorganized developing principle of payment for water use based on flexible regulation of tariffs. State budget subsidizing should be gradually decreased (except for strategic objects), and non-governmental financing of the operation and maintenance of irrigation and reclamation systems should increase.

5. Under rational use and protection of water, which is the main strategic natural resource of the country and the Central Asia in the 21st century, principle of water preservation should be introduced, including circular cycle of water use with purification of sewage and collector-drainage water. In line with the above – is rehabilitation of tailing dumps, exclusion of water pollution by waste of livestock and processing enterprises.

6. Within foreign water policy of the country, mechanism of intergovernmental water distribution based on water use quota should be brought into compliance with market realities; and to introduce principle of compensation of Kyrgyzstan expenditures and losses with regard to implementation of water services in favor of neighboring countries.

3.2.4. Strategy for development of agricultural products' marketing and export

3.2.4.1. Development of agricultural products' marketing system

Supply of urban population with food and also marketing and sale of domestic agricultural products in a new environment will be achieved through wholesale food markets.

For this purpose the Law of the Kyrgyz Republic on Wholesale Markets will be drafted and jointly with private structures the governmental program on development of wholesale markets infrastructure will be implemented.

Existing spontaneous wholesale markets don't ensure required goods movement from producers to consumers and processors. Optimization of their operation will ensure rules regulation on foodstuffs trade, including licensing of wholesale trade by basic products, prices declaration, introduction of advanced taxation schemes for trade enterprises (organizations) according to the size of trade mark-up. It will enable to decrease pressure of illegal commodity turnover that force commodity producers to sell products at prices, which don't cover production costs. At the same time this Law should facilitate development of cooperation system in the area of agricultural products marketing.

Promotion of agricultural products export very much depends on availability of accessible information system containing data on major kinds of products, prognosis of supply and demand at domestic market. Big role in organizing marketing belongs to promotion of voluntary vertically integrated agribusiness companies by technological chain - "raw materials-processing-sale". It will allow to pursue the agreed policy in production, pricing, investments, ensuring of co-operation linkages and favorable environment to create equal economic relations between rural commodity producers and processors.

3.2.4.2. Development of agricultural products' export opportunities

In future the main emphasis will be placed towards increase of agricultural products export. In this respect it is necessary to benefit from membership of the Republic in the WTO, use advantages of the international division of labor, favorable state of the market to strengthen food independence of the Republic.

Improvement of the system of agricultural products' procurement and processing will allow to use full capacities of processing enterprises. Export of cotton fiber, fermented tobacco, tinned meat and vegetables, wool (washed), fruits will be expanded through implementation of measures on increasing their comparative advantages.

To strengthen export opportunities in perspective it is planned to set up special laboratories for certification of agricultural and processed products, and determination of their quality compliance with the international standards that will attract wide range of consumers and allow to fix higher prices for exported goods. Modernization of agricultural processing enterprises and training of producers and managers will serve as additional factors to increase quality of exported agricultural products.

Kyrgyz Republic being a country possessing unique natural and climatic conditions will take numerous orders from other countries to produce sowing materials and seeds on its territory.

To facilitate aggressive export it is necessary to focus on advertising and promotion of domestic agricultural products among potential foreign customers and establish Export Promotion Council.

3.2.4.3. Development of foreign economic links

Development of common CIS agrarian market will contribute to the development and strengthening of agricultural trade. Common agrarian market will encourage local producers to increase output and improve quality, create conditions for unhampered movement along all CIS countries and ensure conscientious competitiveness at the market.

Russia remains to be the main partner in marketing Kyrgyz agricultural products. Direct trade relations will be developed with Russia regions.

Trade-economic relations should be strengthened with those Central Asian countries where agricultural trade capacity isn't fully used. Only after elimination of the main constraint factor – high transport tariff while crossing borders with Uzbekistan and Kazakhstan, it would be possible to achieve positive results in import-export relations with the neighboring countries. Hence Kyrgyzstan should benefit from WTO membership while conducting negotiations with regard to neighboring countries' joining this international trade organization.

Other important directions of developing foreign economic links include cooperation with far foreign countries. Linkages on intensifying mutually beneficial agreements and contracts with China, Germany, Turkey, Malaysia and many other countries will be continued to be maintained.

4. Reforming of the public management system of agroindustrial complex of the Kyrgyz Republic

4.1. Main objectives of the public management

Reorganizations within the management system of agroindustrial complex are determined by priority objectives of the further development of agroindustrial production, trends linked with development of market relations, integration and co-operation processes.

To set up conditions to conduct unified agricultural food policy it is necessary to ensure clear differentiation of responsibility spheres between the regional and central agroindustrial management bodies and their close interaction in solution of the outlined tasks.

Performance of the public management and control functions should be ensured through continuous vertical functioning of veterinary, reclamation, quarantine and chemical services and inspectorates, and their territorial bodies.

As to the state property management in the agroindustrial complex, it is required to carry out thorough inventory of enterprises and continue their privatization in order to increase efficiency of the agrarian sector. Vertically integrated structures should be established at the strategically valuable markets, which will serve as a basis for the state food policy.

Fulfillment of this task will require the following:

- reorganization of the functional responsibilities of the Ministry of Agriculture, Water Resources and Processing Industry of the Kyrgyz Republic in accordance with market conditions;
- reorganize vertical structure of the agricultural agencies system in the Republic in accordance with new conditions.

The Government ensures provision of the following services:

- development of common agrarian and subsectoral policy, regional strategy for development of the agroindustrial complex, relevant laws, decrees of the President of the Kyrgyz Republic and other normative-legal acts regulating relations in the branch;
- presentation of mid- and long-term prognosis, market information, statistical data, archival materials, published announcements in mass media and web-site of the Ministry;
- ensuring of veterinary control, plant protection and seed certification;
- services provided by support services, scientific-research institutions;
- attraction of direct foreign and domestic investments.

4.2. Normative-legal basis

Implementation of the state policy in the sphere of the agroindustrial complex development requires additional development and approval of the normative-legal acts, which will enable to build up holistic system of agrarian legislation and eliminate gaps and contradictions of the current one.

The Law “On Agricultural Development” has to be drafted as basic legislative act to develop the agroindustrial complex, which will define key directions of the state agrarian policy, forms and methods of state support and regulation of the agroindustrial complex, and other conditions ensuring increase of efficiency of the agroindustrial production.

Issues related to financial-credit system and state support of agriculture need an appropriate legislation. First of all it refers to issues on banking support to the agroindustrial complex, restructuring of debts of the agricultural enterprises against the budget, measures on their reforming and financial improvement – the Laws of the Kyrgyz Republic “On Financial Recovery of Agricultural Organizations”, “On Agricultural Bank”, and also amendments to the Law “On Bankruptcy”.

It is important to adopt the legislation acts in the nearest future, which determine peculiarities of creation and functioning of the rural credit and insurance organizations based on co-operative principles – the Law of the Kyrgyz Republic “On Credit Co-operation”. It is useful to introduce appropriate amendments to the tax legislation because the draft Tax Code of the Kyrgyz Republic does not fully take into account seasonality and specific nature of agricultural production with regard to the introduced VAT on agricultural products, does not envisage measures to make payment procedure much easier, and system of compensation for the paid off VAT is not perfect etc.

It is important to have the Law of the Kyrgyz Republic “On procurements and Supply of Agricultural Products, Raw Materials and Food for the State Needs” and draft the law on self-regulating organizations in the agrarian sector (sectoral unions and associations of agricultural producers) to ensure legal support to development of the market infrastructure and regulation of the food market.

Social infrastructure and rural development issues also require appropriate legislation assurance.

The main task in insurance sphere is formation and development of efficient insurance system in agriculture that requires drafting and adoption of the Law on insurance in agriculture, which will ensure more attractive environment both for domestic and foreign insurance companies allowing to set up required conditions for the investments in the agrarian sector.

4.3. Financial support to agriculture

Comprehensive restructuring of rural producers’ accounts payable to the budget of different levels should be performed first of all to improve financial position of agricultural producers, foreseeing at the same time their responsibility for efficient production growth.

In the nearest future it is necessary to change directions of the state support provided to agriculture and re-focus it towards agricultural enterprises and individual farms able to ensure maximum efficiency of invested funds. State financial support should be based on the principle of specific priority directions and project principle.

Attraction of private investment in the agroindustrial complex will be one of the most important directions of the credit policy. Overcoming of the investment resources deficit to develop the agroindustrial complex of the republic requires mobilization of all potential sources both internal and external. They comparison shows that active use of internal resources will require time needed to restore financial-crediting system and capacity of the state budget. Therefore, attraction of foreign credits and investments is a very urgent issue for short-term perspective. Attraction of direct foreign investment in the agroindustrial complex is not only urgent, but also difficult task for the state. Its solution in the short- and mid-term perspective is possible under certain conditions:

- transparency of financial infrastructure;
- available package of investment projects;
- agreement of the Kyrgyz and foreign partners to establish joint enterprises (or enterprises with 100% of foreign capital) in all sectors of the agroindustrial sector, first of all in the sphere of production means;
- favorable investment climate, firstly appropriate legislation basis to attract and use foreign investments efficiently;
- state support.

Strategy for development of this direction consists in reasonable combination of direct investment and loans. Direct investment should ensure solution of strategic objectives of the agroindustrial complex development. They are implemented through capital investment in re-construction and modernization of current and new enterprises, and also by addressing issues on marketing and export of produced output. Loans are necessary to increase floating assets required to introduce production capacity and organize production based on new technology. Payment for leasing of agricultural machinery, technological equipment and breed livestock will be one of the directions of

credit resources use.

Taxation policy in the agroindustrial complex will be conducted in following directions:

- improvement of taxation to simplify system of tax collection and promote transparency;
- introduction of differentiated approach in taxation taking into account existing profitability of agricultural production;
- improvement of taxation for use of agricultural land;
- development and implementation of training programs on accounting for rural producers, for the purpose of taxation and attraction of investments.

4.4. Educational policy, scientific basis and development of advisory services

In spite of the overall high literacy of the Kyrgyzstan population, rural entrepreneurs experience lack of knowledge in specific issues on agribusiness organization and development, especially in agricultural production technology.

Rural Advisory Services with its branches on places should continue providing valuable assistance under market economy to rural entrepreneurs to develop small and medium-size businesses in rural area, disseminate knowledge among heads of business entities in the area of marketing, management, technical and financial analysis of activity. In perspective RAS should become a financially independent organization.

The key role in farmers' training and retraining belongs to rural vocational schools. Training programs should satisfy real requirements and needs of individual farms. Therefore it is necessary to launch into practice all over the Republic Helvetas funded pilot project on farmers training in Naryn Oblast on the basis of vocational schools.

Fundamental and individual priority application studies should be a subject for the state financing. Main task in this direction is a transition to distribution of resources on a tender basis to carry out identified scientific researches. Integration of the Kyrgyz researches in the world scientific process is an important factor in developing agrarian science in the Republic. Competitiveness will promote agribusiness development, support abstract researches. Outlined growth in the agrarian food sector enhances financial opportunities of scientific-research institutions in this sphere.

Existing educational system in agriculture requires adjustment in connection with a new production structure in this sector, and changed structure of demand for specialists. Modern enterprises need not only specialists-technologists, but also managers, marketing specialists, financial managers, and consultants.

5. Role of donor and non-governmental organizations

Role of donor organizations – provision of financial resources in priority spheres, ensuring agricultural growth, poverty reduction among rural population and improvement of management of natural resources. Also donors should continue activities on providing an independent expert opinion that will help to avoid mistakes while developing and implementing strategy for agrarian development.

Priority directions for donor activities include strengthening of human resources in the agrarian sector by providing technical assistance, financial means and training.

Investment decisions should be taken depending on common country strategy (CDF, NSPR), and also priorities in the agrarian policy. To improve investment environment it is necessary to have the following:

- well-grounded projects, developed jointly with all stakeholders;
- strategy for development of all branches of the agrarian sector and clearly designed action plan on its implementation;
- legal basis attractive to investors; ensured guarantee on safety of their investments; preferential terms on taxation and services;
- efficient monitoring and evaluation system of investment projects performance, well trained staff to work in projects and carry out monitoring.

The Government should support NGOs and other organizations of civil society and collaborate on partnership basis in implementing the agrarian policy. Role of NGOs consists in controlling over implementation of agreed strategy of rural and agricultural development on places, fair distribution of profits and expenses, sustainable use and management of natural resources. NGOs should also be entrusted with responsibility for implementation of some pilot projects.

6. Role of the private sector

Big role in implementing the strategy for development of agrarian sector of the economy is assigned to the private sector. Under development of market relations private sector will perform the following basic functions: creation and ensuring of source of raw materials, production, processing and marketing, provision of marketing and support services.

The role of the Government in developing the private sector will include maintenance of favorable conditions implying:

- support of domestic producers firstly in priority branches;
- conducive environment to attract investments;
- stabilization of economic situation;
- extension and educational services.

Role of the private sector in the agrarian policy implementation should be displayed through various models of interaction with other key stakeholders of the target programs of agrarian development, the state and donor agencies. Functional role of the private sector and presented different entities is determined through identification of optimal spheres for mutual co-operation.

7. Conclusion

The Agrarian Policy Concept is fully harmonized with the Comprehensive Development Framework and National Strategy of Poverty Reduction and oriented towards implementation of the tasks outlined in the Message of the President of the Kyrgyz Republic to people of Kyrgyzstan and Jogorku Kenesh of the Kyrgyz Republic of 16 October 2003. Implementation of the main provisions of this Concept facilitates formation of common state policy in the agrarian sphere of the economy and achievement of the main strategy of the country – poverty reduction.

At the same time the Concept is not a dogmatic document. In the process of its implementation the Concept might be improved, changed, and amended by new items and provisions.

The main goals of the Concept – to achieve by 2010 food security in the country, increase income of rural producers on the basis of qualitative improvement of their activities.

ANNEX 5.1: POLICY NOTES

Peasant Farm Productivity, Market Efficiency, and Rural Non-farm Development: Strategic Priorities for Agriculture

Kyrgyzstan Agriculture Sector: Policy Note 1.

New Farm and Market Structures Require New Strategies

Performance of the agriculture sector is critical to Kyrgyzstan's economic performance, due to its large share of GDP (36%), employment (53%) and its domination of exports. A recent in-depth analysis of the sources of agricultural growth shows that since 1995 agriculture has made a substantial contribution to overall growth and poverty reduction. Sustaining this performance in coming years will be a significant challenge, but one that can be met by reinvigorating government strategy to adapt to the new agrarian realities.

The policies and programs that have driven agricultural growth to date include agrarian land privatization, market liberalization and enterprise privatization, irrigation system rehabilitation, improvements in rural finance institutions, and strengthening of public support services for agriculture. This has facilitated creation of a diversified private farm sector and emergence of markets for land and finance. It has also improved the resource base and strengthened the physical and institutional infrastructure for agriculture. Farmers have responded by sharply increasing production, which stemmed initially from farmers' need to fulfil their own food requirements, but increasingly reflected commercial sales activity. Yet despite recent productivity gains, overall productivity remains low, commercialisation of agriculture is still limited, and underdeveloped, high cost marketing chains pose a great obstacle to increasing value-added in the sector.

In this new agrarian landscape peasant farms have driven agricultural growth. Agricultural strategy must now take account of these new private farms and their specific technology and marketing needs. Farmers need ready access to productivity-enhancing inputs, and more responsive, efficient and transparent markets in which to buy inputs and sell their produce. Rural non-farm development also merits significant attention because it has great potential to increase growth and rural employment, while reducing poverty. Rural employment will become an increasing need as farm restructuring proceeds and farmers seek off-farm work. Both farm and non-farm development will depend heavily on efforts to complete the agrarian land reform, improve rural service delivery, and modernise the public institutions responsible for guiding sectoral development so that they help, and do not hinder, emergence of an active sector. All this must be done in a financially sustainable manner, consistent with constraints on external borrowing and public expenditures.

Priorities for Action

- *Complete Land Reform and Farm Privatization*

Approximately 13% of arable land is still held by large and inefficient agricultural enterprises. Until these enterprises are restructured and their land is included in the land reform program, the efficiency gap between these enterprises and private farmers will continue to widen and sectoral growth will be compromised. These reforms should be completed as soon as possible.

- *Increase Transfer of Appropriate Technologies to Peasant Farms*

Despite strong gains in the recent past, there is much scope for further productivity increases through the adoption of improved technology, including that embodied in better seed varieties, fertilizer and crop protection techniques. For crops, these technical improvements must save land and make intensive use of labor in order to have a substantial impact on productivity, rural incomes and employment. Improved seeds, better varieties, increased fertiliser use, more efficient use of irrigation water and scale-appropriate on-farm mechanisation hold considerable potential in this regard. Livestock production will benefit from improved pasture management and access to water, better husbandry (feeding and health), and genetic improvement. Increasing technology transfer will require reduction in regulatory obstacles to new technology (e.g. seed variety registration requirements) as well as scaling up of agricultural extension activities developed with donor support over the past several years.

- *Strengthen Agricultural Markets*

Numerous agricultural products are competitive on domestic and export markets. But agricultural markets are high-cost, risky and poorly integrated, due to poor physical and institutional infrastructure and inadequate access to finance. This reduces farmer incentives to commercialise their production. Government needs to develop a supportive legal framework for marketing associations and cooperatives, support the establishment and adoption of appropriate grading and quality standards, guide the design of commodity contracts, and strengthen contract enforcement. It also needs to abstain from interfering in markets (selling or buying at non-market prices, imposing mandatory marketing arrangements or prices for commodities). Public investment in essential infrastructure such as roads and bridges will also improve marketing efficiency but it must be selective, relatively low costs, and must respond to local investment priorities, since in many cases this infrastructure is locally owned. The private sector needs reduced obstacles to investment in storage, assembly, processing, handling, grading and packaging. Public interventions will need to be greatly reduced if markets are to expand and become more efficient.

- *Promote Rural Non-Farm Economic Activity*

Current rural non-farm economic activity is limited, but will significantly increase as agricultural growth proceeds farmers increase their demand for consumer goods and agricultural inputs. Poor rural households are likely to be the major beneficiaries of such growth, which increases opportunities for off-farm employment and diversifies incomes. Public investment in rural infrastructure will enhance this process, together with improved access to credit for non-farm activities and a business regulatory environment that does not hinder investment.

- *Improve Public Service Delivery*

Government should continue to sharpen its focus on essential public services: policy analysis and formulation, trade facilitation, animal health, plant protection, food safety, research and extension, and environmental monitoring and regulation. These services should be modernised and adapted to the needs of a market economy. They should also be rendered more cost-effectively, which in many cases will require some level of private cost-recovery and service delivery. Reorganisation of the Ministry of Agriculture, Water Resources and Processing Industry is the starting point for action.

- *Rationalise Public Expenditure*

Public expenditure funds for agriculture are highly constrained, and careful attention should be given to the level and targeting of public investment and to budget management. The

Ministry of Agriculture must align budget outlays with sectoral priorities rather than traditional expenditure patterns, and it must increase cost-recovery (especially for irrigation), and eliminate non-essential services that are either no longer needed or are better provided by the private sector. Donors should coordinate their support more effectively and gradually shift to well-targeted programs for private sector development. Financial sustainability and the capacity to meet recurrent costs must also be given much greater importance in the design of public expenditure programs, by both donors and government.

This strategy is consistent with Kyrgyzstan's broad framework for economic development, based on the Comprehensive Development Framework and the National Strategy for Poverty Reduction, and responds directly to the national goals of sustainable growth and reduced poverty.

ANNEX 5.2: POLICY NOTES

Farm Structure and Agricultural Productivity

Kyrgyzstan Agriculture Sector: Policy Note 2.

Land Reform has Led to Smaller, More Efficient Farms

Intensified land reform since the mid 1990s has been the single most important influence on Kyrgyzstan's recent agricultural growth. The transfer of farm land from state and collective farms to private farmers substantially increased their resource endowment and dramatically changed farm structure. *Small peasant farmers (with an average farm size of 3.8 hectares¹) now operate more than 70% of arable land and account for about 59% of both agricultural value-added and marketed surplus².* Together with other policy changes, land reform also substantially increased their incentives to produce. Their output has grown, on average, by 20% per annum since 1996, directly contradicting the widespread belief in Kyrgyzstan that small farm size is a constraint to agricultural growth.

Household plots still account for a substantial share of sector output, as before independence. Despite being very small (average 0.1 ha) and occupying only 5% of total arable land, they account for just under 40% of agricultural value added and marketed surplus. These plots are very productive, with value added averaging 119,028 som/ha and 40,434 som/worker in 2002. While private farms in comparison generated 17,201 som/ha and 28,523 som/worker, there is considerable scope for further productivity increases on these farms. The role of household plots will certainly decline over time, however, due to further productivity gains by private farmers and the increasing construction on household plots. Aggregate value-added from household plots has already fallen since 1998, as has their share of marketed surplus, and this will continue.

In strong contrast to their dominant role before independence, large-scale agricultural enterprises now are the weakest segment of the sector. Although they still occupy 13% of arable land, they account for about 3% of agricultural value-added and marketed surplus. They are also the least efficient producers, with value added averaging only 2,923 som/ha and 5,146 som/worker in 2002. Their productivity has fallen steadily since 1996, contrary to persistent beliefs that large, capital-intensive farms are the most efficient basis for production. Failure to complete the farm privatization and to transfer these enterprises to private farmers continues to be a constraint for sector growth.

Productivity has Increased, but Scarcity of Agricultural Land Relative to Labor Poses Challenges for the Future

Spearheaded by land reform, the policy and institutional reforms implemented since the mid-1990s have resulted in a sustained increase in agricultural output. Annual growth rates exceeded 20% from 1996 to 1999, driven by increased food production for own consumption. A second phase of growth from 1999 to 2002 was characterised by increased

¹ The size of private farms varies widely, but most are concentrated within the range of 0.5 ha – 5.0 ha.

² If contribution of household plots are added, 97% of the agricultural value added in produced by the private sector.

commercialisation, with average growth rates of 5% per annum. In addition to the impact of rapid changes in farm structure and land and livestock ownership, this response is attributable to increased commercialisation by small farmers, yield improvements, and changes in the commodity production mix. Rising international/regional prices have also contributed substantially.

Reform has also led to marked increases in land and labor productivity. Land productivity increased, as the growth in agricultural value added was accompanied by a decline in the area sown, and now surpasses the productivity levels achieved in 1990. Farm labor actually increased from 1995-2002, but since value-added growth was even higher, labor productivity has increased as well. But unlike land productivity, labor productivity has yet to surpass the levels obtained before independence.

The combination of declining cropped area and increasing farm labor has led to a growing scarcity of land. The labor-land ratio is now 1.16 workers/ha, 53% above its level in 1990, and poses a major challenge. More intensive land management systems, with higher input use, will be required if production is to continue increasing without deterioration in land quality. Land scarcity also places a premium on measures that lead to increased yields for both crops and livestock, not only as a means to achieve sustained growth in production, but also as the basis for increasing labor productivity. As a key indicator of income earning capacity, labor productivity has a major impact on poverty levels. Land scarcity also means that effective measures are needed to generate employment opportunities outside of farming in the rural areas; service cooperatives and small-scale enterprises hold the greatest promise to achieve this.

Differences Between North and South Are Pronounced

The changes in farm structure, production and productivity also have a regional dimension. Farms in the north are larger and less labor intensive, use fewer inputs, but have made the largest overall contribution to sectoral growth so far. Food expenditures are higher and poverty is lower in the farm households in the north, despite a high proportion of food-deficit households. This suggests a higher level of commercialization and the attendant capacity to buy additional food when required. Farm output in the north grew more quickly during the early years of growth (1996-1999), when it was driven by the need for increased food production for own consumption. The north has grown more slowly than the south since 1999, as commercial incentives have become more important. This may be due to the concentration of large agricultural enterprises in the north and their comparatively poor response to commercial incentives. The smaller, poorer farms of the south have grown more quickly than northern farms since 1999, further demonstrating that small farm size is not a constraint to growth. Rapid growth in livestock output, typically for commercial reasons, appears to have been the main source of this growth. These regional differences suggest the need for different types of technology transfer and marketing support within each area, appropriate to the different farm sizes, commodity mix, and degree of commercialization. Strengthening of agricultural marketing networks between north and south may also help to reduce income disparities.

Completion of Land Reform - Critical Step for Agricultural Strategy

Completion of the agrarian reform should be the first priority for policy makers. Transfer of the remaining land held in the Land Redistribution Fund and by state farms to private farmers will lead to higher production and productivity and will reduce the pressure on arable land. This should be accompanied by measures to strengthen the market for land rental and land

sales, as the basis for further market-driven farm restructuring. Measures to increase crop and livestock yields should also receive high priority, as the basis for increasing labor productivity. At the same time, strong incentives need to be provided – through appropriate policy measures and investments in essential local infrastructure -- for the generation of rural employment opportunities outside of farming.

ANNEX 5.3: POLICY NOTES

Stimulating Agricultural Growth through Improved Technology Transfer, Marketing and Rural Finance

Kyrgyzstan Agriculture Sector: Policy Note 3.

Removal of Constraints on Peasant Farms is Key to Future Growth

Small peasant farms have driven Kyrgyzstan's impressive agricultural growth since 1995. Extensive land reform and privatisation in the early 1990s resulted in a rapid shift of land and livestock assets to small-scale private farmers, who responded by increasing their production and marketed surplus. Price liberalization, accompanied by a regional increase in producer prices, enhanced this response by stimulating yield increases and changes in the commodity production mix. As a result, private farmers now farm 71% of all arable land and account for 59% of agricultural GDP.³ Given adequate incentives and support, they will continue to expand production and sales, providing critical impetus to the realization of Kyrgyzstan's national goals – sustained economic growth and reduced poverty.

The major obstacles to continued growth by private farmers are low levels of technology, weak markets for agricultural inputs and outputs, low capitalization, and inadequate access to credit for working capital and investment. Interventions that effectively diagnose and address the specific constraints faced by peasant farmers in each of these areas should be high priorities for donors and government.

Small Farmers Need Improved Technologies Appropriate to Their Commodity Mix and Resources

Current sector trends have demonstrated that farmers have the capacity to increase yields significantly, and that yield increases make a substantial contribution to sectoral growth. Crop yields have increased by more than 40% since 1995, and increased productivity in both crop and livestock farming has been the primary source of agricultural growth. Productivity remains low by international standards, however, and there is significant potential for further yield increases in crop and livestock production.

To be effective, technology transfer and innovation must be suited to the factor endowments of Kyrgyz agriculture. Hence, for crops it should respond to the limited availability of arable land, by saving land (the scarcest factor of production) and making maximum use of abundant farm labor. Technological innovations embodied in inputs (e.g., improved seeds, modern varieties, increased fertiliser use), and small-scale, labor-intensive mechanical technology and appropriately scaled mechanization are likely to have the greatest impact, together with management systems which emphasise the conservation of soil fertility (crop mixes and rotations) and cost-effective use of irrigation. Attention should also be given to the introduction of high potential new crops.

³ If contribution of household plots are added, 97% of the agricultural value added is produced by the private sector.

The resource base for livestock production, with abundant pasture resources but limited labor, requires a different approach. Technical and management innovations that use land and save labor will be most effective. This includes improved pasture management and better access to livestock water. Improved pasture management will be particularly important to reverse the trend of overgrazing and pasture deterioration on close-in pastures and to make better use of the more distant alpine and subalpine pastures. Better pasture management and water provision is likely to require changes to the current system of ownership and management, which is divided among oblast, raion and local governments. Better livestock husbandry will also be essential, including improved feeding, health care and housing livestock during the winter. Obtaining optimal returns on livestock production will also require greater emphasis on processing in terms of product quality, hygiene and responding to consumer preferences.

Institutions for Technology Transfer Need to be Strengthened

Agricultural Extension: Continued government and donor support for the Rural Advisory Service, and its possible scaling up (based on lessons from past successes and failures) will be essential for this technology transfer to be effective and to reach as many farmers as possible. Government will also need to remove the legal and administrative impediments to the import, domestic marketing and use of new seed varieties, fertiliser and agricultural chemicals.

Input and Output Markets: Neither domestic nor export markets for agricultural inputs and output function well. This limits producer incentives to raise production and sales and inhibits access to farm inputs. Marketing costs are high, prices are volatile, and market integration is weak. Market information, crucially important for producers and buyers, is collected and disseminated by KAMIS, but does not reach the majority of market participants. Some residual government regulations and intervention also obstruct market activity. Many producers are also wary of markets due to their own weak bargaining power and poor understanding of market behavior. These are serious constraints to growth, given that many agricultural products have a comparative advantage in domestic and regional markets, and well functioning input markets are critical for technology transfer.

Resolving these constraints will require a range of direct and indirect measures by government, with support from donors. Risk and transaction costs can be reduced by support for group marketing activities (including cooperatives), the design of better contractual relationships, introduction of appropriate grading standards, farmer training in market activity, and more widespread dissemination of timely, relevant and accurate market information. Private investment in storage and increased access to working capital will reduce exposure to price volatility, and so further reduce risk. Public investment in rural infrastructure (roads, communications) will improve market integration. Government should support these measures and encourage market activity through legislation to reduce corruption and rationalise taxation, and by terminating inappropriate involvement in agricultural markets. Government and donors should also improve trade flows and expand exports by reducing transit times and corruption at border points, reducing non-tariff barriers to trade, negotiating trade agreements and strengthening procedures for mediating trade disputes.

Improvement in Rural Finance Institutions is Necessary

The ability to effect technology transfer and strengthen markets will rely heavily on access to investment and working capital finance. Agricultural marketing chains require substantial investment in assembly, processing, storage, grading and packing in order to increase

efficiency and competitiveness. Input suppliers, traders and agri-business enterprises need better access to working capital. Producers also need working capital for improved seed varieties, fertiliser, animal feed; and for investment in machinery, irrigation equipment, etc. Farmers and farm support enterprises lack capital, generate insufficient profits to finance their investments and operations from their own resources, and require access to credit. Despite the substantial growth of the Kyrgyz Agricultural Finance Corporation, rural credit unions and several other rural finance institutions, the demand for rural credit still far exceeds supply.

Continued donor support for these and other rural financial institutions will be critical, but it will not be enough. The incentives for financial institutions to increase their outreach to rural areas must also be enhanced through policies and programs to strengthen rural land markets and improve the legal and administrative basis for loan recovery. Leasing should also be encouraged through technical assistance and financial support for private leasing companies, and the disincentives for leasing need to be removed through changes in the tax code regarding lease payments and the imposition of VAT. The capital base and institutional resources of bank and non-bank financial institutions involved in rural financial markets must also be strengthened through measures to encourage foreign direct investment, improve supervision and build their capacity for sustainable lending.

ANNEX 5.4: POLICY NOTES

Priorities for Public Investment in Rural Areas – Irrigation and Infrastructure

Kyrgyzstan Agriculture Sector: Policy Note 4.

Careful Prioritization of Investments is Needed in a Tight Fiscal Environment

Driven by policy reform and public investment, agriculture has been the major engine of growth for the Kyrgyz economy since 1995, and has contributed significantly to poverty reduction. Continued growth and poverty reduction will require further policy reform and public investment in order to promote private sector development. While the rationale for strong public investment in agriculture is apparent, the resources available to finance this investment are limited. Kyrgyzstan's small economy and weak tax base severely limit the domestic capacity to finance public investment. Indeed, the Ministry of Agriculture is unable to finance the recurrent expenditures incurred by existing public investment projects without strong donor-financed budget support.

The Government is seeking to reduce public debt and external borrowings to sustainable levels by adhering to tight limits on public borrowing, putting significant pressure on public investment programs. These financial constraints oblige government and donors to carefully prioritise the needs for physical investments, in order to best use the limited funds that are available. Irrigation and rural infrastructure have been chosen as the highest priorities, consistent with the need to sustain agricultural growth and achieve continued rural poverty reduction.

Irrigation: Shift to Support for Water User Associations and Increased Cost-recovery

Given the abundance of snow-fed water resources in Kyrgyzstan, the low rainfall during the cropping season and high consequent reliance on irrigation for crop production, and the serious deterioration of irrigation infrastructure, there is ample justification to make irrigation a high priority for public investment. Without such investment it will be very difficult for Kyrgyz farmers to efficiently use local water resources. Moreover, their ability to compete on regional and domestic markets will rely increasingly on cost-effective irrigation. Investment in irrigation has therefore been the major component of public investment in agriculture to date.

Approximately one million hectares of arable land is considered irrigable, of which 750,000 ha are served by irrigation systems under public management. Public investment in irrigation since 1995 has been targeted at approximately 400,000 ha, chosen on the basis of its agricultural potential, the number of people it serves and the budgetary resources available to operate the irrigation schemes. To date, most of this investment has involved capital works to rehabilitate primary and secondary canals, improve flood control, and more recently to improve rural water supply for household use. With many of these capital works nearing completion, the emphasis is shifting to reform of the legal and institutional framework for water management and the establishment of Water User Associations (WUAs) to serve as the basis for irrigation management by farmers themselves.

While the agenda for unfinished investments remains substantial, and remains an important priority, nonetheless it is necessary that the focus of public expenditure change from capital works to implementation of recent legal/institutional changes, the most important of which is establishment and support for WUAs including higher-order systems. Along with receipt of managerial responsibility, farmers need training to make the most profitable use of irrigation. Not only will this lead to increased production and efficiency; it will also facilitate cost recovery because farmers will be able to pay higher irrigation service fees to operate and maintain the systems. This will in turn reduce the budget constraints that currently limit domestically financed public investment.

Demand-driven Rural Infrastructure Investments Hold Great Promise

International evidence indicates that public investment in rural infrastructure frequently has a high economic return. With its weak and degraded roads, bridges, water supply, communications and electricity supply systems, rural Kyrgyzstan is likely to benefit from such investment. Rehabilitated infrastructure can strengthen agricultural markets by lowering transaction costs and increasing market integration, to the benefit of both producers and consumers. This in turn encourages investment in agricultural production, processing and marketing. As agriculture production increases, better infrastructure also facilitates the growth of non-farm economic activity in rural areas, by making non-farm goods and services more accessible and cheaper to deliver. Public investment in infrastructure will thus contribute to economic growth -- both directly through its impact on agricultural production and agricultural markets, and indirectly by enhancing the strong backward and forward linkages between farm and non-farm economic activity.

The rural poor can also benefit from better infrastructure, particularly when they are involved in priority setting, and when least cost construction technologies are chosen, allowing the widest possible benefits for a given level of infrastructure investment. The impact of such investments is felt first in lower marketing costs, to the benefit of low income, food deficit households. Ultimately, however, the rural poor may benefit most from the impact of improved infrastructure on the growth of non-farm economic activity, as they depend heavily on non-agricultural income to finance food expenditures. Public investments in roads, bridges, electricity and communication, which facilitate the growth of non-farm economic activity and thereby lead to increased non-farm employment and labor income, are likely to offer significant potential for rural poverty reduction in Kyrgyzstan.

International experience has also shows that involving local governments, local communities and beneficiaries in planning, financing and maintenance is critical to the sustainability of rural investments. Rural infrastructure investment will thus need to be coordinated with decentralization policies and programs in general, and with policies and programs to build village infrastructure, and local institutional capacity in particular. Rural communities will need to receive a greater share of total available public financial resources, be it through resource transfers from the center or through increased authority to generate and retain their own budgetary resources, along with the authority to make their own investment decisions and the training and capacity building needed to make optimal use of their resources.

More work needs to be done in evaluating rural investment priorities and development strategies, local institutional capacity for planning, operation and maintenance, and funding of recurrent costs over the life of the investment, and the cost of existing technical options (and possible lower cost alternatives). Such an assessment could be used as an input to a rural infrastructure policy, which could evaluate local institutional capacity to plan and manage investments, permit the use of lower cost construction options and set guidelines for access

by poorer households (or subsidy approaches). The experiences of the Village Investment Project should be used to inform this effort.

ANNEX 5.5: POLICY NOTES

Tax Reform and Agriculture

Kyrgyzstan Agriculture Sector: Policy Note 5.

The Policy Challenge: How to Raise Revenues from Agriculture Without Stifling Private Sector Development?

On balance, the agriculture sector receives far more in public financial resources than it pays in taxes and fees. Producers in particular are lightly taxed, because land taxes are low and collection is weak, farm inputs are exempt from the value-added tax (VAT), and extensive smuggling allows farmers to avoid import taxes on farm inputs. Low water user fees, and high arrears on these fees aggravate the situation and compromise the sustainability of vital public irrigation schemes.

Despite this light tax burden, current tax policy actually inhibits the growth of commercial agriculture. Medium and large-scale agro-business and agro-processing enterprises are subject to high taxation, which lowers profitability and constrains investment. The recent extension of the VAT to cover smaller enterprises, including cooperatives, will further inhibit commercial agriculture by driving small rural enterprises into the informal sector at a time when they should be expanding and seeking access to formal markets for capital and new technology. Access to capital is weakened by the absence of tax laws that facilitate leasing. Unfavourable tax laws also inhibit foreign direct investment.

The challenge for policy makers is to raise the contribution that agriculture makes to tax revenues, with tax policies that minimise disincentives to private sector activity and facilitate the economic growth needed to reduce poverty. Local governments should receive a greater share of local taxes, not only to increase their capacity to fund local infrastructure investments and maintenance, but also to motivate improved tax collection. The following discussion and recommendations focus on the two elements of current tax policy that are most in need of reform.

For Farmers, Land Tax is Preferable to the VAT

One element of current tax reform is the extension of the VAT to cover small enterprises, including farms. This drives emerging small enterprises back into the informal sector and prevents the development of the critically needed small-scale enterprise (SME) sector that everywhere in the world is the most important provider of employment and income. It also is blocking the formation and growth of rural marketing cooperatives which are critically needed to help small farmers gain access to essential markets and services. Land taxes provide a broader and more equitable tax base and are less likely to discourage the private economic activity and investment essential for rural growth. A land tax is paid by all land owners, large or small. *Ceteris paribus*, a land tax will result in higher tax payments by larger farmers (with more land or better land), but it will not deter them from increasing production and sales. Indeed, a land tax provides strong incentives to increase production so as to reduce the percentage of tax payments in total farm income. Furthermore, low-efficiency farmers will be more inclined to lease their land to high-efficiency farmers, because the lease income is likely to be higher than net income after taxes from own production. Increased leasing from low to high efficiency farmers may increase aggregate production. Land taxes are also simpler and more transparent to administer than the VAT and easier for taxpayers to understand. And, if they are collected and retained by the local self-government, they will

meet with less taxpayer reluctance and lead directly to local infrastructure and service improvements.

The eligibility threshold for the VAT should be set high enough to cover only large and medium-scale producers, agro-processors and agri-business enterprises. Farmers should be subject to a land tax rather than VAT, but this should be set at higher levels than at present (and graduated for different classes of land), and collection should be strengthened. It is also crucial that the capacity of local governments to assess and collect the land tax be strengthened, together with a review of the manner in which land taxes are levied and administered. Local governments should also receive guidance on to how best to use this tax revenue for investment in, and maintenance of local infrastructure (see Note 4).

Irrigation Service Fees

Farmer payments for irrigation water are much less than actual expenditures by the Department of Water Resources (DWR) for water delivery, and far below the real cost of water delivery (if all capital and operating expenses were to be met). The current water user fee of 0.03 som/m³ covers only 50% of the DWR's actual budget expenditure for water delivery. This fee would need to increase more than six times, to 0.20 som/m³, in order to meet the full current costs of operation and maintenance expenditure and ensure the financial sustainability of public irrigation programs.⁴ Rough calculations indicate that doubling of the current level of irrigation service fees will not be catastrophic and can easily be accommodated by the typical structure of farm budgets.

There is clear justification for increased irrigation service fees. Government lacks the financial resources to assume the full burden of operating and maintaining the newly rehabilitated irrigation schemes. Thus, unless water users finance a greater share of these costs and ensure the financial sustainability of public irrigation schemes, the substantial investments made for their benefit will deteriorate and the capacity to irrigate will be vastly diminished. At the same time, the institutional and financial capacity of farmers to pay higher fees is improving in response to donor programs to establish Water User Associations (WUAs) and more generally, to increase farm income via agricultural development. Indeed members of the newly formed WUAs recognise the need to increase water use fees, and are prepared to pay higher fees in return for improved water management and more cost-effective water delivery. Any increase in irrigation service fees should be pursued gradually, however, first because the establishment of WUAs is still in its early stages, and second because little has been done to teach WUA farmers' how to take advantage of their improved access to water, through new crops and better management systems.

The proposed new Water Code is a valuable start to such reform, but it lacks clear guidelines on how to initiate and sequence any increase in water use fees, and how to ensure that they remain affordable. Donors should facilitate this process by preparing detailed recommendations on the design and implementation of a program to raise water use fees. Government should also facilitate reform by enacting this new legislation as soon as possible, and setting up the institutional framework required to implement it. The long-term objective of reform should be to transfer all responsibility for the operation and management of public irrigation systems to the private sector, and to raise water use fees to the point where they are sufficient to meet the full costs of operation and maintenance expenditure

⁴ Although these costs will fall as the efficiency of water use increases in response to the wider involvement of water users in irrigation management, they will still be significantly higher than current water use fees.