

THE WORLD BANK GROUP

Kazakhstan

Public Expenditure and Institutional Review for the Agricultural Sector

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Abbreviations

AE	Agricultural Enterprises
ACC	Agricultural Credit Corporation
CAP	Common Agricultural Policy
CFCP	Ministry of Finance of the Republic of Kazakhstan Financial Control and State Procurement Committee
CIS	Commonwealth of Independent States
EU	European Union
FCC	Food Contract Corporation
FFSA	Fund for Financial Support of Agriculture
GDP	Gross Domestic Product
GOV	Gross Output Value
JSC	Joint Stock Company
KAF	KazAgroFinance
KZT	Kazakh Tenge
MCO	Microcredit organisation
MEBP	Ministry of Economy and Budget Planning
MOA	Ministry of Agriculture
MOF	Ministry of Finance
NRA	Nominal Rate of Assistance
FI	Financial Institutions
SOE	State Owned Enterprise
WB	World Bank
WTO	World Trade Organization

Executive Summary

I Introduction

1. Agriculture occupies a key position in the Kazakhstan economy. Although accounting for only 5 percent of GDP, agriculture continues to employ almost one third of the population. Studies of agriculture in Kazakhstan confirm significant un-tapped productive and export potential for the sector. Accordingly, agriculture and the related industries have become a major priority in the Government's initiatives for promoting economic development and diversification, including the 30 Corporate Leaders program and the Industrial Map of Kazakhstan. Improving the impact of budgetary policies in agriculture represents a key objective for the successful transformation of the sector. This includes both increasing the efficiency of existing expenditures and restructuring those expenditures with the goal of enhancing productivity and competitiveness. This is therefore, an opportune time for critical review of budgetary expenditures and policies in agriculture.

II Sector Overview

Performance

2. The performance of the agricultural sector has generally been strong in recent years, but has nevertheless lagged behind the rest of the economy as a whole. Annual growth in agriculture accelerated to an average of 7.3 percent from 2005-2008. Between 2001 and 2008, labor productivity in agriculture increased by 24%. Nevertheless, productivity growth in agriculture has not kept pace with real wage growth. In this context, the share of agriculture in Kazakhstan's GDP has declined. The share of employment in agriculture has declined somewhat in recent years, from 36 percent of the population in 2005 to 30 percent in 2008, but remains quite significant.

Farm Structure and Productivity

3. The sector is highly heterogeneous in terms of farm structure and farm productivity. The northern region of the country consists primarily of larger farms concentrated in crop production for export and domestic markets. In the South, smaller and household mixed farms predominate, which typically include livestock and dairy production for the domestic market. There have been modest changes in farm structure. The share of agricultural land area farmed by agricultural enterprises has declined from 59% to 50%, while land farmed by individual farms has increased from 41% to 49% between 2003 and 2007. Individual farmers are expanding, primarily in livestock production, while agricultural enterprises are producing more crops. The productivity of agricultural enterprises appears to be increasing faster than that of individual farms. Household plots, who may also have access to pastures and in some cases, fodder from larger farms, produced a consistently high percentage of total output (50%) between 2003 and 2007, mainly in the form of meat and milk, of which they produce 80-90% of output.

Key Challenges

4. The government faces a number of challenges in designing budgetary and other policies for agriculture, which includes: a) facilitating structural change in terms of land ownership and management so that the land is managed by the most efficient operators; b) ensuring the provision of credit for agricultural inputs and machinery to a range of farm types with differing needs; c) rehabilitation of the irrigation and drainage infrastructure and establishment of financially sustainable arrangements for management of the systems; d) provision of essential public services including advisory services, research and extension, provision of market information, sanitary and phytosanitary inspection and veterinary services and; e) increasing value added in the agricultural sector and facilitating investment in agricultural processing.

III Sector Strategy

5. The Ministry of Agriculture (MOA) recently prepared a *“Strategic Plan for the Agricultural Sector for the period 2009-2011”*. Measures to be implemented under the strategy are elaborated in the, *“Set of Measures for Sustainable Development of the Agro-Industrial Complex of the Republic of Kazakhstan for the Period 2009-11”*. Under the Strategic Plan, Strategic Direction One, which relates to agricultural development, identifies three main strategic sub-directions: a) competitiveness; b) food security; and c) accession to WTO. Strategic Direction Two deal with forestry and cross-sectoral water issues and Strategic Direction Three with rural development. Almost all agricultural programs are aligned under strategic direction one. Accordingly the socio economic analysis of programs in this report examines the performance of agricultural programs in achieving Strategic Direction One, whilst recognizing their possible contribution to other social objectives set out under Strategic Directions Two and Three.

6. While the Strategic Plan represents an important accomplishment, it could be strengthened. Firstly, the situation analysis, which focuses exclusively on production to the neglect of socio-economic and environmental concerns, could be broader, and secondly, the Strategic Plan could more clearly identify the key challenges for the development of the sector, as described in para. 4. so that a strategic approach to addressing these can be developed.

7. The strategic sub-directions of increased competitiveness and accession to WTO are sensible and complementary. Food security is also a sensible goal, but it would be better to measure food security in terms of *ability to pay for food at household level* rather than in terms of the *level of import dependence*, which is currently the case, since the physical availability of food is not a constraint to food security in Kazakhstan. There is a disconnect in the logic of the Strategic Plan in some areas - having presented WTO access as being part of the overall Strategic Direction, there is no further mention of WTO access, neither at the Goal nor at the Task level.

IV Spending Program

Budget Analysis of the Spending Program

8. Large increases in the MOA's budget¹ have taken place since 2001, reflecting the Government's increased prioritization of agriculture during the last eight years. Using the broad definition of the MOA budget (inclusive of agriculture, forestry, hunting, fishing and the provision of potable water), budget allocations rose from 26.3 bn. KZT in 2001, to 81 bn. KZT in 2005, to 139 bn. KZT in 2008. The average annual increase in the MOA budget in real terms between 2002 and 2008 was 17%, although this annual growth steadily declined from 20% in 2002 to 6% in 2008, and is projected to decline to 2% by 2011. However, in 2008 MOA expenditures considerably exceeded budgeted spending as they were supplemented by an additional 31 bn. KZT from the reserve budget which was allocated to Kazagro. In 2009, Kazagro also received an additional off-budget allocation of 120 bn. KZT from the National Fund under the Crisis Program.

9. For the purposes of budget analysis, the 79 programs under agriculture have been categorised under eight functional categories: a) Subsidy Programs (sub-divided into 6 types of subsidies); b) Credit Programs; c) Market Intervention Programs; d) Crop and Livestock Services; e) Infrastructure; f) Research and Extension; g) Administration and; h) Cross Functional. A variety of subsidy programs can be categorized as follows: i) Area subsidies; ii) Production subsidies; iii) Interest rate subsidies; iv) Irrigation water subsidies; v) Standards subsidies; vi) Insurance subsidies.

10. The share of subsidies in the MOA agricultural budget has increased consistently from 6% in 2001 to 24% in 2008 and is scheduled to increase further to 39% by 2009. The largest share of the subsidy budget goes to the area subsidies which represented 59% of subsidies in 2008. The share of

¹ The MOA budget includes agriculture, forestry and hunting, fisheries and potable water. Where the report refers to the MOA agricultural budget this means the MOA budget for agriculture excluding forestry, fisheries and potable water.

credit programs in the budget declined from 25% in 2001 to 9% in 2005, before gradually increasing again to 27% in 2008. The share of spending on output market intervention has consistently decreased from 26% in 2001 to 13% in 2008. Spending on infrastructure, mainly irrigation and drainage, decreased from 16% to 5% over the same period.

Economic Assessment of the Spending Program

Spending Program Formulation

11. Partly as a result of weak situation analysis, there is little alignment between the budget and the Strategic Plan. There is also a lack of economic analysis indicating how core programs such as credit and subsidy programs contribute to the strategic directions. The MOA Strategic (Budget) Plan 2009-11, has too many programs, 79 in total and their structure is somewhat unstable from year to year. Programs are also extremely varied in size, ranging in value (in 2009) from 19 bn. KZT to 165,000 KZT, making budget analysis and planning cumbersome.

Rationale for the Programs

12. In examining the rationale for a program, is important to: a) identify how the program will contribute to the stated goal; b) examine whether the program is economically efficient - if it is not the social or other rationale should be indicated; c) examine whether the program will bring about permanent structural or technological change to permanently increase productivity; d) identify the market failure which the program is intended to address, which justifies the need for public intervention; e) examine whether the program reduces or at least does not exacerbate income disparity; f) examine adherence to WTO rules; g) examine the costs of administering the program; h) examine whether it is more or less economically efficient than alternative measures in achieving the same goal. Before discussing the specific programs it is useful to further discuss some of the government's rationales for the spending programs² - these include: improved competitiveness, food security, rural employment, promotion of new technology and promotion of processing.

13. Financial and economic efficiency rationale: There is often a misunderstanding of the meaning of financial efficiency and economic efficiency. Financial efficiency refers to the profitability of a business entity (e.g. a farmer), while economic efficiency refers to the profitability of the economy as a whole (i.e. the whole of society). Subsidies involve a transfer from one part of society (taxpayers) to another (e.g. farmers). While a subsidy may yield benefits for farmers, they do not necessarily yield benefits for society as a whole.

14. Food security rationale: Government's key concern should be the ability of low income households to pay for food rather than the physical availability of food. The physical availability of domestically produced and imported food is not a constraint in Kazakhstan. Kazakhstan is a major international exporter of wheat. It has good access to and established trading relationships with international markets, numerous borders and an adequate storage and transport network, to access and distribute imported food.

15. The appropriate policy response is therefore to establish an adequate social safety net for the very poor so that they can afford to buy food. The less poor may also be temporarily vulnerable to food insecurity as a result of food price fluctuations. In this case the appropriate policy response may be a temporary expansion of social safety net payments. An additional approach, practised in some countries, is to establish national stocks to intervene in the market and influence prices. In a relatively small economy, with an open trade regime, where prices are largely determined by international prices, this may not be effective. A more permanent, long term solution, is to promote programs which are targeted at raising the incomes of the rural poor, including small farmer, so that they can afford to buy more food.

² Described in government's comments on earlier drafts of this report.

16. Furthermore, programs which aim to increase domestic production in an economy with a free trade regime like Kazakhstan, will anyway, not affect the total supply on the domestic market (only the proportion which is domestically produced) or the market price. Consequently, such programs will not affect food security unless a significant proportion of the additional production is generated from rural households which are vulnerable to food insecurity and can increase their household incomes as a result of the programs.

17. Other non efficiency rationale: Agricultural subsidy programs used in many countries as a means of temporary income support to address increasing income disparities between urban and rural populations, until such times as other opportunities emerge in the non-farm sector. They are also used to address other non efficiency objectives such as maintaining employment in rural areas to preserve rural communities or ensuring the stewardship of natural habitats and landscapes. These all provide a valid rationale for agricultural support programs. For strategic planning purposes, it is important, firstly, that the non-efficiency rationale for such programs are clearly stated in the sector strategy and program designs, so that the program can be properly evaluated; and secondly that a thorough assessment is made of whether the program is the least costly and most effective way of reaching that non-efficiency objective.

Area Subsidies and Production Subsidies

18. Area subsidies will be paid for 11 crops in 2009 covering 82% of arable land. Production subsidies, mainly for livestock production, are to increase significantly under the 2009-2011 budgets. While these programs provide short term financial support to farmers, they do not greatly contribute to either, food security (as discussed), improved economic efficiency or improved income distribution. The economic efficiency of production is not improved because the subsidies do not bring about any permanent structural or technological changes. The subsidies do not reduce the costs of production to the society as whole (indeed, they increase costs to some extent because of the costs of administering such programs) – they simply represent a transfer from taxpayers to farmers.

19. The most damaging aspects of these programs are that they delay the structural adjustment of the sector. They do this by masking the inefficiency of some producers, who in the absence of subsidies, would naturally leave the sector and lease their land to more efficient producers. Since a large proportion of these subsidies go to large producers, small producers who are most food insecure, benefit the least. These subsidies are also incompatible with WTO rules.

20. The increase in subsidies and the decline in spending on agricultural public services and infrastructure as a proportion of spending between 2001 and 2008 is striking. Given the usually high economic returns to investment in public infrastructure and services and low economic returns to subsidies, this may represent a decline in the overall efficiency of public spending.

Credit Programs

21. Credit programs, including short and medium term credit and machinery lease finance, amounted to 27% of MOA expenditure in 2008. There is much potential to increase lending from private financial institutions to agriculture but the dominance of subsidized state credit programs may be crowding out private sector lenders. The capture of the least risky borrowers by Kazagro subsidiaries operating state credit programs means that private sector lenders are left to serve the least creditworthy (high risk) borrowers. The restrictions on Kazagro subsidiaries in setting different interest rates for different investments, creates a disincentive to lend for high risk – high profit investments and to give small loans, that are more costly to administer.

Grain Market Intervention

22. The FCC grain reserve is intended to provide some measure of protection against low grain stocks which the government perceives to be a potential threat to food security. Kazakhstan is a major producer and exporter of grain and so is not at risk of domestic grain stocks dropping to

dangerously low levels, although in 2008, Kazakhstan did temporarily face what Government considered to be dangerously low grain stocks³.

23. In addressing its concerns about the availability of grain, the government should examine a wider range of factors which influence grain production and marketing. For example, administrative barriers to grain trading which reduce Kazakhstan's competitiveness in the grain market.

Infrastructure Programs

24. Public investment in drainage and irrigation infrastructure is low but is an important resource in Kazakhstan. While the government has supported a policy of transferring farm systems to water user associations in the South, these systems need substantial public investment before they can be sustainably managed by users. Off-farm systems also require major investments.

Crop and Livestock Services - Essential Public Services

25. The government has invested in essential public services, including research, extension, market information and sanitary and phytosanitary (SPS) control but there is a need for greater investment, and the economic returns to such investments would be high. Public expenditure on research and extension is very low. Further public investment in SPS control will be critical to the development of the processing sector. Feasibility studies in neighboring countries, reveal high returns to investments in disease control in terms of animal productivity and human health.

Execution and Monitoring of the Spending Program

26. *Execution:* The results framework in the MOA Strategic Budget Plan is too complicated. There are around 150 at the strategic level alone. There are a further 320 indicators associated with the 79 programs. These numbers of indicators are extremely difficult to monitor and manage effectively. Large agricultural spending programs require more detailed evaluation to ascertain their usefulness and value for money than the use of simple indicators.

27. *Monitoring and Results Framework:* The Kazakhstan budget system is strong on compliance and on the framework of controls which ensure compliance, but the system of checks and controls also leads to implementation delays and a lack of flexibility in reacting to changing needs.

V Policy Options

28. A number of key adjustments to the government's existing program of budget management reform and agricultural sector reform could rapidly improve the effectiveness and efficiency of the public spending program. These include: a) adjustments to strategy formulation, budget execution and performance monitoring systems, which can be implemented soon and; b) adjustments to the spending program, including a number of options for reforming the subsidy program, some involving rapid reform and others a more gradual approach. Specific recommendations and policy options from the key sections of this study are described below.

Budget Management

Spending Program Formulation

29. Recommendation: Restructure the large number of agricultural programs (currently 79) into 8-10 functional categories which might include: administration, planning and management; crop and livestock services; infrastructure; research and extension; market support; input and production subsidies and; agricultural credit and microcredit. This has the potential to greatly increase the efficiency and results-orientation of budget program formulation, execution, and monitoring.

³ Bread grain stocks stood at 4.7 million tons as of April 10th 2008. Between 1.1 and 1.4 million tons were being exported at this time on a monthly basis. Source: Kazakh Government web site.

30. Recommendation: Conduct more ex-ante and ex-post socio-economic and environmental analysis of program results as a foundation for budget formulation: Establish capacity within the MOA and additionally contract an independent organisation to undertake budget analysis and high quality ex-ante and ex-post socio-economic and environmental analysis. Link this new function to the introduction of the central evaluation system under consideration for the Ministry of Economy and Budget Planning (MEBP).

Execution Performance Monitoring and Results Framework

31. Recommendation : Review the costs and benefits of the current system of controls to strike an effective balance between compliance and flexibility in relation to the implementation of development programs.

32. Recommendation: Review the results framework at both the strategic and program levels with a view to dramatically reducing the number of indicators at both the program and sector level.

Strategy and Programs

Strategy

33. Recommendation: Situation Analysis: The situation analysis needs to be more holistic encompassing technical, economic, social and environmental analyses and identifying the key challenges in the sector. Assistance should be requested from a reputable economic research institution in Kazakhstan to help put a stronger situation analysis in place, encompassing technical, economic and environmental analyses.

34. Recommendation: Strategic Directions: Re-examine the strategic sub-direction - *food security* - in the Strategic Plan and redefine the performance indicators for this to reflect *the ability of households to pay for food at household level* - rather than the current definition - *a low level of import dependence*.

35. Recommendation: Strategic Goals: Ensure linkage between strategic directions, goals and tasks.

Effectiveness and Economic Efficiency of Programs

Assess the economic effectiveness and efficiency of the spending programs; reform the subsidy programs; reallocate funding to essential public infrastructure and; implement further complementary reform in the land and credit markets.

36. Recommendation: Re-examine the rationale for each of the programs by considering:

- i) Does the program contribute to the government's strategic objective and if so how?
- ii) Does the economic analysis demonstrate that economic benefits will be greater than economic costs? If not, is there a strong social or environmental justification for the program?
- iii) Does the program promote the overall goal of increasing the competitiveness of agriculture, including permanent structural changes and technological improvements within the sector?
- iv) Does the program provide an essential public good which will not be provided by the private sector, or does the program help to overcome a market failure and promote provision of services by the private sector in the long term?
- v) Does the program reduce income disparity, or at least not exacerbate it?
- vi) Does the program conform to WTO accession requirements?
- vii) How easy will it be to collect accurate information to administer the program, and what will this administration cost?

- viii) Are there other measures which would achieve the same objectives more effectively and with greater economic efficiency?

37. Recommendation: Policy Options for the Reform of Programs:

- i) *Subsidy Programs:* There are several policy options for reforming the current subsidy programs. The options are:
- *Option 1 Maintain the current subsidy programs but shift some spending from those subsidies which distort production decisions the most to those which distort production decisions the least.* This implies shifting some spending from crop area payments and production subsidies to input subsidies. This can be implemented soon.
 - *Option 2: Decouple subsidies from the production of specific crops.* This means eliminating differences in the level of area payments for different crops – this can be implemented soon and would be an important steps towards deeper reform of the subsidy program.
 - *Option 3 Decouple subsidies from agricultural production completely drawing on lessons from EU experience.* This means a shift from area and production subsidies to some form of income support for farmers not linked to production. This could be implemented in a gradual phased manner over the next 5 or more years.

The purpose of decoupling subsidies from specific crops or from production altogether, is to ensure that production decisions are driven by market signals rather than by administrative decisions, while at the same time protecting rural incomes. These important reforms of the subsidy programs should be accompanied by a number of other fundamental reforms described below.

- ii) *Public Services and Infrastructure: Reallocate any savings on subsidy programs to essential public services and infrastructure* including, research and extension, sanitary and phyto-sanitary control, veterinary services and disease control in line with the requirements of WTO- these investments should be implemented soon;
- iii) *Land Market: Create a more flexible land market.* It will be important to allow the more competitive producers to expand and to allow uncompetitive farmers to move out of the sector by sub-leasing or selling their land;
- iv) *Credit Market: Improve credit provision to allow farms to finance their expansion.* This could be achieved by encouraging competitive private sector lending to agriculture. In the shorter term, the administration of state credit programs could be transferred to private financial institutions. In the longer term, the state provision of lease finance and credit could be gradually reduced, as provision from private financial institutions increases.

I. Introduction

1. This World Bank is supporting the government in conducting a Public Expenditure and Institutional Reviews (PEIR) in both the health sector and agricultural sector under the Joint Economic Research Program.

2. **The objectives of the Agriculture PEIR are:**

- To conduct an assessment of the state of budgeting, budget execution and management in the agricultural sector.
- To assess the extent to which the composition of public spending in the agricultural sector is aligned with sector policies and strategies.
- To review the capacity of relevant institutions at different levels to plan and execute budgets.
- To provide recommendations for improving the quality and effectiveness of public expenditure as well as budgetary management and execution in agriculture.
- To support the preparation of the government's budgetary reform, including the gradual introduction of results-based budgeting to serve as a vehicle for linking policy priorities with the allocation of resources through the budget.

3. **Kazakhstan has experienced strong economic performance.** Annual growth averaged 10% between 2001 and 2007. However, growth was unbalanced and became unsustainable. High revenues from oil and other resource exports fueled domestic demand. Extractive sectors account for over 70% of exports and about 40% of state revenues. With the collapse in commodities prices and the deepening global financial crisis, GDP growth slowed to 3.2% in 2008. A GDP decline of 2-3% is projected for 2009 and 1-2% growth expected for 2010.

4. **The government recognizes the importance of the agricultural sector in diversifying economic growth, reducing rural poverty and in contributing to improved food security.** The government has placed a high priority on agricultural sector development as voiced by the President in his address to the nation in 2008: *"The agricultural industrial complex should become the most important and highly remunerative branch of the economy"*. The government has consistently increased budget allocations to the sector since 2001 and plans further increases in 2009-2011. The government also recognizes the need to increase value added in the sector and envisages the development of large scale vertically integrated input supply, production and processing systems such as the proposed "cotton cluster" in Southern Kazakhstan.

5. **This study examines what adjustments could be made to the government's substantial program of support to the sector to enhance its effectiveness and efficiency.** It describes the current structure and performance of the agricultural sector, describes the government's strategy for the sector, analyses trends in past and planned public spending, provides an assessment of the economic rationale behind the strategy and specific programs, examines arrangements for execution and monitoring the performance of the programs and provides recommendations to improve the their effectiveness and efficiency.

II. Sector Overview

Performance

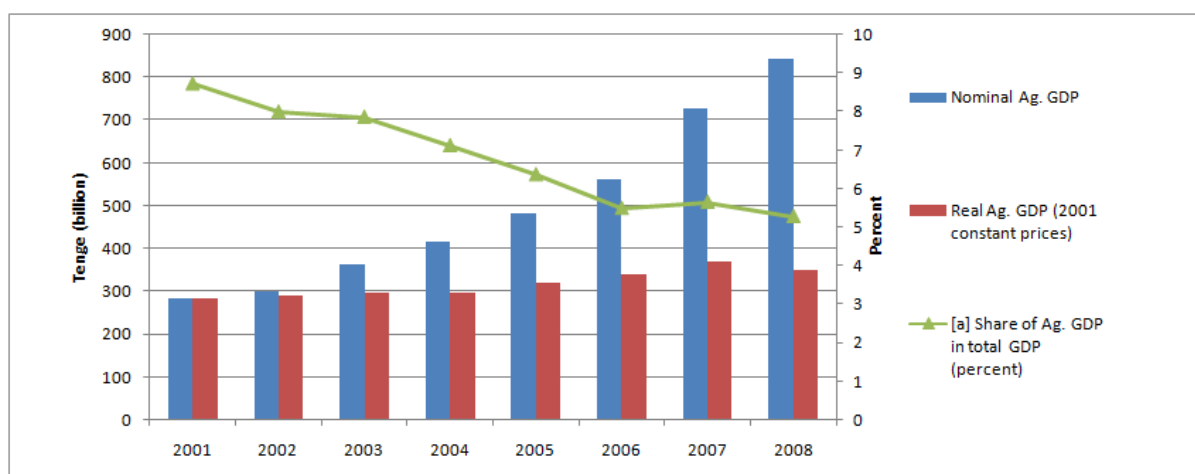
6. **Agricultural growth has generally been strong but agriculture's share in total GDP has lagged behind many other sectors of the economy.** Annual growth in agriculture accelerated to an average of 7.3 percent per annum in 2005-2007. The amount of arable land, hay fields, and pastures, has increased steadily in recent years. Between 2001 and 2008, agricultural labor productivity increased by 24%. However, productivity growth in agriculture has not kept pace with real wage growth. In this context, the share of agriculture in Kazakhstan's GDP has declined (Figure 1). The share of employment in agriculture has also declined somewhat in recent years, from 36 percent of the population in 2005 to 30 percent in 2008, but remains quite significant (Figure 2). All data for this section is provided in annex 1.

7. **Agricultural employment remained fairly steady between 2001 and 2008.** Agriculture's share in total employment fell from 36% to 30% during this period, as employment in some other sectors increased. This demonstrates that there has not been substantial migration out of the agricultural sector into the energy and construction related sectors, where the majority of new jobs have been created during this period, or elsewhere.

8. **Labor productivity in agriculture increased by 24% between 2001 and 2008 (Figure 3) but not to the same extent as in other sectors (53%).** Consequently, disparity between incomes in the agricultural sector and other sectors increased as illustrated in Table 1. In an economy where almost one third of the population is employed in agriculture, this has important social consequences and provides further justification for the government's prioritization of the agricultural sector.

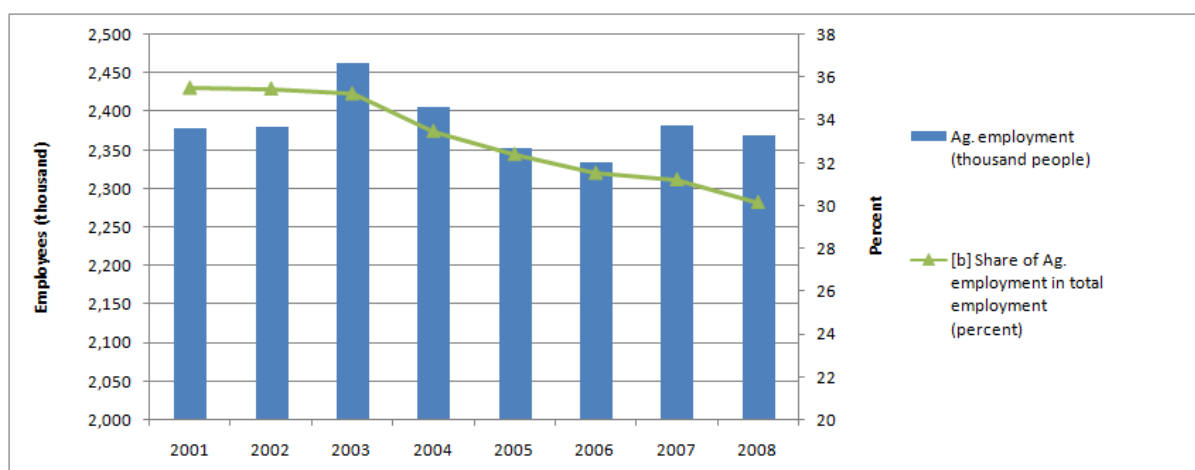
9. **The declining share of agriculture in the national economy and increasing income disparity is not unexpected, particularly in a resource-wealthy growing economy.** Figure 4 and Figure 5 show the share of agriculture in the economy for other countries. There are only a few countries in the world where income per capita in agriculture kept par with income per capita in the whole economy. These countries, such as New Zealand, managed to expand production of high value agricultural products. Nevertheless, Kazakhstan has an opportunity to minimize such income disparity by further increasing agricultural labor productivity and creating opportunities for migration out of the agricultural sector.

Figure 1 Agricultural GDP and its share in total GDP



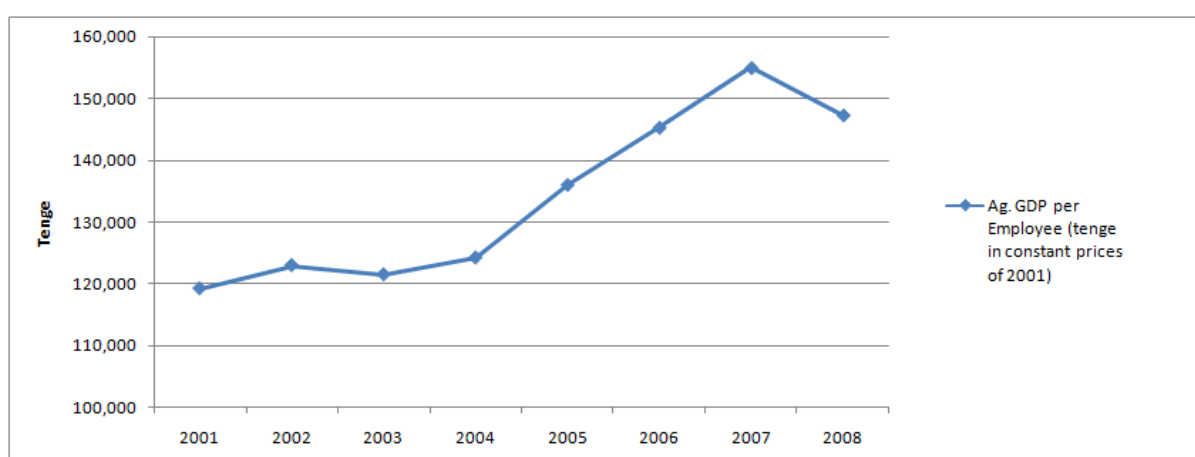
Source: Adapted from Statistical Yearbook Kazakhstan

Figure 2 Agricultural employment



Source: Statistical Yearbook Kazakhstan

Figure 3 Agricultural labor productivity



Source: Adapted from Statistical Yearbook Kazakhstan

Table 1 Disparity between agriculture and other sectors

	2001	2002	2003	2004	2005	2006	2007	2008
[a] Share of Ag. GDP in total GDP (percent)	8.72	8.00	7.86	7.12	6.37	5.50	5.66	5.28
[b] Share of Ag. employment in total employment (percent)	35.52	35.48	35.25	33.50	32.41	31.54	31.22	30.16
[c] Coefficient: Share of Ag. GDP in total GDP/Share of Ag. employment in total employment	0.25	0.23	0.22	0.21	0.20	0.17	0.18	0.18
[d] Percent change in [c] coefficient (+ means an increase in inequity)		8%	1%	5%	8%	11%	-4%	3%

Source: Statistical Yearbook of Kazakhstan

Note: The share of agricultural GDP in total GDP divided by the share of agricultural employment in total employment, can serve as a proxy for income disparity. The coefficient would be one, if income per person employed in the agricultural sector was the same on average as income per person employed in other sectors. A coefficient smaller than one, indicates income disparity. This coefficient is low and declining. The only year without an increase in income disparity was the year 2007, during which worldwide agricultural prices soared.

Figure 4 Share of agriculture and income per capita

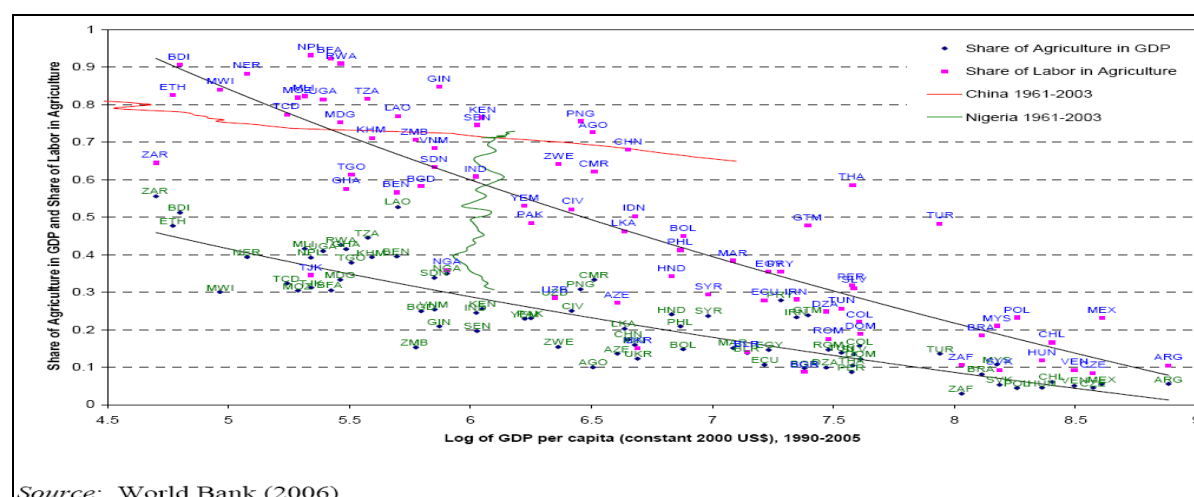
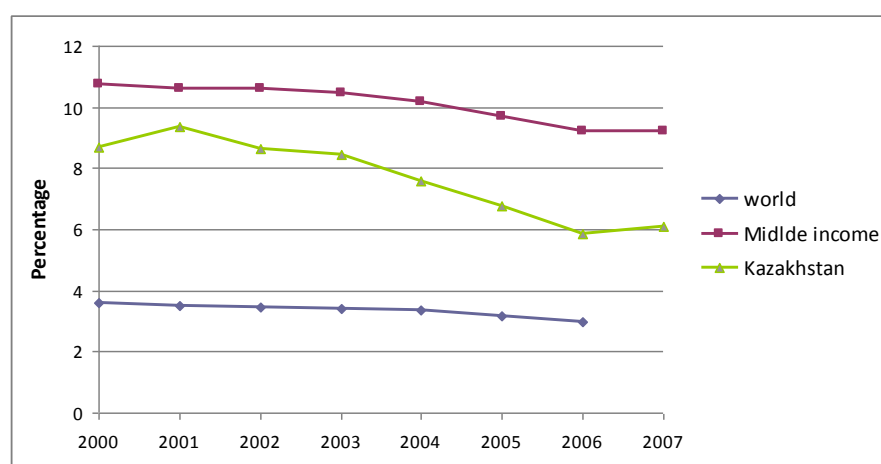


Figure 5 Agriculture GDP in total GDP in%



Source: World Bank Development Indicators

Farm Structure and Productivity

10. The sector is highly heterogeneous in terms of farm structure and productivity and so average data across regions and farm types gives quite limited information. The Northern region is dominated by larger farms specialized in crops production, whereas smaller mixed farms, which include substantial meat and dairy production for the domestic market, predominate in the South. The total agricultural land area increased by about 6% between 2003 and 2007 including, growth of 4% in the area of arable land and 6% in the areas of hayfields and pastures. The share of agricultural land farmed by agricultural enterprises has declined from 59% to 50% during 2003-2007, while land farmed by individual farms has increased from 41% to 49%. Individual farmers have slightly reduced their arable land (by 0.14 million ha) while increasing their hayfields and pastures (by 8.47 million ha) between 2003 and 2007. In contrast agricultural enterprises have increased their arable area (by 0.92 million ha) and decreased their hayfields and pastures (by 5.14 million ha) (Figure 6).

11. Agricultural enterprise output per ha has increased faster than that of individual farms.

While the share of agricultural land area farmed by enterprises has declined, their share of output increased slightly from 23% to 27% between 2003 and 2007. In contrast, while the share of agricultural land farmed by individual farms has increased, their share in output declined slightly from 27% to 24%. This suggests a higher rate of improvement of productivity in agricultural enterprises than in individual farms.

12. Household plots produced a consistent and high percentage of total output - 50% between 2003 and 2007. This was mainly in the form of meat, of which they produced over 80% of output, and milk, of which they produced over 90% of output. Household plot owners farm only a small proportion of agricultural land (1%), but have access to pastures and, in some cases, may have access to fodder or feed from larger farms in exchange for labor. It is important that the contribution of household plots to agricultural output is recognized in formulating agricultural policy.

13. The relative profitability of different farm types is not clear. Over 20% of farms were unprofitable in 2007 (Table 3). Unfortunately, there is no disaggregation of this data by farm size, location, or cropping pattern to indicate whether low profitability was a particular feature of one farm type or whether it was common across all farm types. Evidence from Ukraine⁴ suggests that low profitability is more likely to be a result of the quality of management rather than farm size.

Text Box 1 Farm Structure

Based on their legal status, there are three farm types in Kazakhstan: Agricultural Enterprises (AE) are incorporated farms, such as joint stock companies, limited liability partnerships, and cooperatives. Individual Farms (IF) (also called peasant or family farms). They are physical rather than legal persons. Both AEs and IFs are legally registered and are considered to have a commercial purpose. Household Plots (HPs) are not registered. They are managed by families that cultivate the small vegetable gardens around their houses and raise small number of animals, mainly for personal consumption. They are considered to be subsistence rather than commercial farms. Table 2 shows the area, output and employment of the different farm types.

Starting around the year 1992, huge holdings in agriculture have emerged. This is not reflected in the statistics. A holding consists of a hierarchical structure and contains a number of agricultural enterprises. These are often involved in input supply and processing. These holdings are concentrated in the grain sector but also act in other sectors such as the dairy sector and fruit and vegetable sectors. Unfortunately, there is no information on the exact number. According to Akimbekov (2006) about 40 holding companies operate in the grain sector and some of them are very large, owning up to 1 million ha of arable land. According to estimates, these holdings control about 30% of crop land and provide for about two third of all grain sold including, both domestic and international sales (Wandel, 2008).

Table 2 Farm Structure (2004)

	Commercial		Subsistence
	Agric. Enterprises	Individual Farms	Household Plots
Number	4,600 (0.2 %)	156,000 (7.2 %)	2,000,000 (92.6%)
Labor Force ('000)	326 (14%)	280 (11.7 %)	1,782 (75%)
Agricultural Land ('000 ha)	43,420 (56 %)	34,228 (44.3 %)	325 (0.4 %)
Arable Land ('000 ha)	12,921 (59 %)	8,816 (41.2 %)	231 (1 %)
Arable land area/ farm	2,808.9 ha	56.5 ha	0.1ha
No. employees/farm	70.9	1.8	0.9
Gross Agricultural Output (bn. KZT)	171 (24 %)	178 (25 %)	349 (50 %)

Source: National Statistics Committee Note: Labor force in individual farms and household plots is probably underestimated

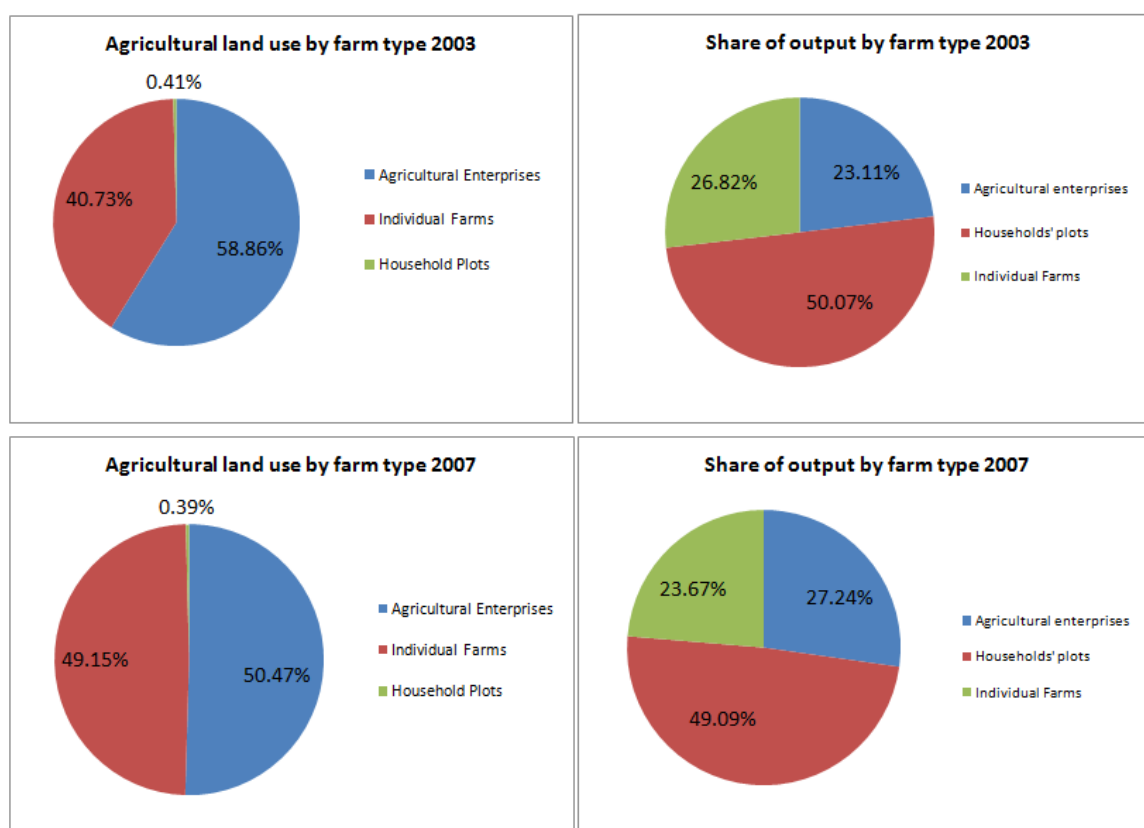
⁴ National Statistics Committee of Ukraine 2001

Table 3 Share of farms which were unprofitable in Kazakhstan in 2007

	2003	2004	2005	2006	2007
Percentage of farms	28.4	42.2	47.9	38.8	22.6

Source: Statistical Yearbook of Kazakhstan 2007

Figure 6 Agricultural land and land use by farm categories



Source: Statistical Yearbook of Kazakhstan 2007

14. Processed food production has increased since 2008⁵ but there is still potential for further expansion. Processed food production in 2007 remained at only 53% of the 1990 level, and 80% of food sold to consumers was unprocessed. Under its “Concept for Development of the Agro-industrial Complex 2006 -2010” the government is supporting, through subsidies and credits, the development of large vertically integrated units that involve both agricultural production and processing.

Key Challenges in the Agricultural Sector

15. The government recognizes the considerable potential of the agricultural sector, and has prioritized its development. Comparisons of productivity in similar environments, and between farms in Kazakhstan, suggest that there is indeed great potential to increase farm productivity. For example, average wheat yields in similar conditions in Canada reach almost double those of Kazakhstan. There is also clearly potential to increase value added through investment in processing, which is another key priority of government.

⁵ Wandel, J., 2008, Agroholdings or Clusters in Kazakhstan’s Agri-Food Sector. Paper presented at the Forum, Halle, Germany

16. **The government faces a number of challenges in designing spending programs which will promote competitiveness, while at the same time protecting the incomes of rural inhabitants,** some of whom are dependent on the land and have few employment opportunities in other sectors, at least in the short term. These challenges include:

- Facilitating structural change, in terms of land ownership and management, so that the land is managed by the most efficient operators, while protecting individuals' land rights and the livelihoods of those who are dependent on the land.
- A special challenge is to unleash the significant potential of the vast drylands and pastures for improved livestock production.
- Ensuring the provision of credit for working capital and investment to agricultural enterprises, individual farms and household plots, some of which are costly to administer because they are small, dispersed across an enormous geographical area and susceptible to high risk.
- Ensuring the provision of agricultural inputs and machinery to meet the needs of both large scale extensive wheat production and small scale agriculture.
- Rehabilitating the irrigation and drainage infrastructure and establishing financially sustainable arrangements for management of the on-farm, and off-farm systems. While investment in many of these schemes offer high economic returns, the government faces the challenge of how to deal with those schemes which are less economically viable but critical to the livelihoods of those using them.
- Providing essential public services to the private sector, including advisory services, research and extension, market information, sanitary and phytosanitary inspection, veterinary services and disease control, all of which will be critical to increasing competitiveness.
- Increasing value added in the agricultural sector. Facilitating investment in agricultural processing and increasing its competitiveness in former CIS, EU and other markets, which increasingly demands higher standards in terms of quality and food safety.

17. The study now examines the government's approach to dealing with these challenges.

III. Strategy

18. **The preparation of a *Strategic Plan for the Agricultural Sector for the Period 2009-2011* by the MOA is commendable.** Only a few governments worldwide publish such a document for the sector. The Strategic Plan 2009-2011 sets out the government's overall approach to improving sector performance. Measures to be implemented under the Strategic Plan are elaborated in the ***Set of Measures for Sustainable Development of the Agro-Industrial Complex of the Republic of Kazakhstan for the Period 2009-2011***.

19. **Three Strategic Directions are indicated in the Strategic Plan;** Strategic Direction One focuses on agriculture, while the other two deal with natural resource management and rural development as follows:

- Strategic Direction One: "Sustainable development of the agro-industrial complex sectors, increasing their competitiveness, ensuring food security and adaptation of agrarian production to the WTO accession conditions".
- Strategic Direction Two: Preservation, rational use and rehabilitation of forest resources, fauna resources, natural reserve objects as well as establishment of conditions for sustainable water supply and efficient water management.

- Strategic Direction Three: Establishment of normal conditions for rural welfare based on optimization of rural settlements, ensuring growth of rural territories' capacity through integrated rural development.

20. These strategic directions highlight the role of the MOA in dealing with social and environmental issues as well as economic development issues. Almost all agricultural programs in the Strategic Plan, are aligned under Strategic Direction One⁶. Accordingly, the socio economic analysis of programs in section IV of this study examines the performance of agricultural programs in achieving Strategic Direction One, whilst recognizing their possible contribution to other social objectives set out under Strategic Directions Two and Three.

21. Strategic Direction One, which relates to agriculture, actually deals with three different strategic sub-directions:

- Competitiveness
- Food security
- Accession to the World Trade Organization (WTO).

22. The Strategic Sub-Directions of increased competitiveness and accession to WTO are sensible and complementary. The first strategic sub-direction 'increasing competitiveness' and the third strategic sub-direction 'adaption of agrarian production to the WTO accession conditions' are complementary and completely in line with international good practice. WTO requires an open trade regime and decoupling of state support for the sector from production, both of which will contribute to increased competitiveness.

23. The Strategic Sub-Direction of food security is also a sensible but it would be better to measure food security in terms of *ability to pay for food at household level* rather than in terms of achievement of a standard *level of import dependence* which is currently the case. Absolute availability of food is highly unlikely to be a constraint in Kazakhstan as discussed further under para. 59.

24. The three Strategic Sub-Directions are then linked to three Goals, one dealing with production-based food security, the second dealing with productivity growth (competitiveness), and the third dealing with the development of infrastructure and technical support.

25. The goal of WTO accession receives little attention in the specific proposals of the Strategy. Having presented WTO access as being part of the overall Strategic Direction, there is no further mention of WTO access, neither at the Goal nor at the Task level. Thus, there is no presentation of measures to be put in place to achieve accession to WTO.

26. A major weakness in the Strategic Plan is that the situation analysis is narrow. Consequently, the Strategic Plan does not adequately describe the key challenges and lacks a strategic approach to addressing them. The situation analysis focuses exclusively on production, with little or no information on the socio-economic or environmental aspects of agriculture. The situation analysis also should address a number of questions under each of the strategic sub directions as a foundation for the design of programs, for example:

- What is the structure of the sector in terms of farm type and the respective contribution of various farm types to agricultural output and employment? There is no information in the situation analysis on the nature and numbers of different types of farm structure (agricultural enterprises, individual farms, household plots). Since 2000, there has been substantial change in farm structures, with individual farms having increased from just over 76,000 to more than 169,000. It is important to understand the dynamics taking place and to

⁶ The exception to this are two small programs under strategic direction 3 which involve provision of microcredit which may include some agricultural lending and some equity contributions to Kazagro but these amount to about only 1% of the total MOA Budget.

understand the economics which is driving change in agriculture. There is also no mention of household-based activities which provide the vast majority of livestock production.

- In relation to competitiveness - Where does Kazakhstan's potential comparative advantage lie? What are the weaknesses in the land, credit, input, machinery markets, agricultural services, infrastructure and processing which are constraining achievement of Kazakhstan's comparative advantage? What are the barriers to private sector provision in these markets and how can government reduce these barriers? Which market failures would government intervention in these markets address?
- In relation to food security - Who are most vulnerable to food insecurity? What is the nature of the food security threat to these people – inadequate availability of food or inadequate income to purchase food? How can the incomes of vulnerable groups be increased in times of crisis and in long term? What is the role of the subsistence agriculture in alleviating food insecurity.
- In relation to Accession to WTO – which international standards in terms of sanitary and phytosanitary standards does Kazakhstan adhere to and where is further development required? which types of programs would cause Kazakhstan to exceed the levels of direct support allowable under WTO.

IV. The Spending Program

A. Budget Analysis

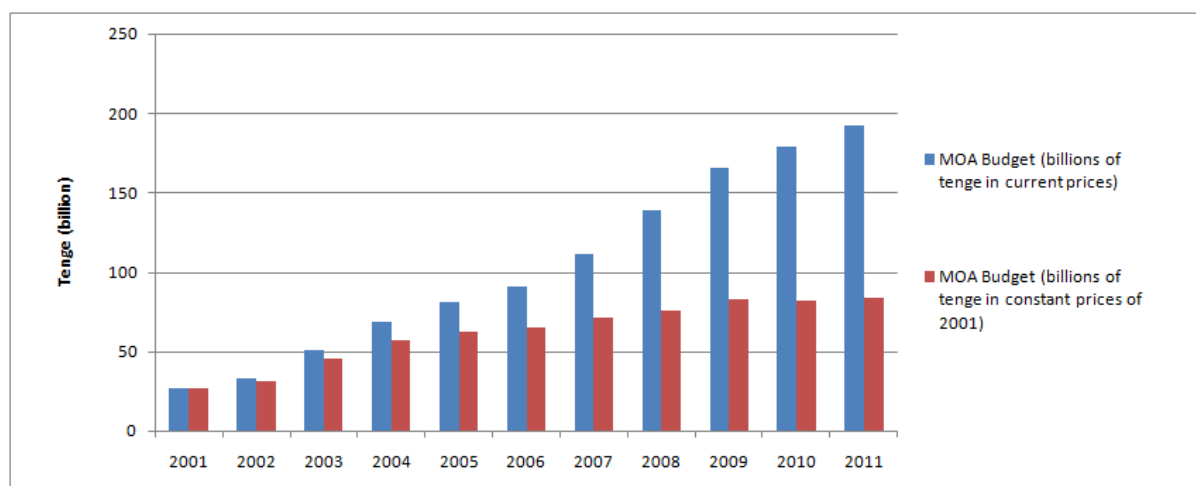
27. This study examines the MOA budget which is disbursed through Kazagro and other organizations as described in para. 30. The MOA budget includes agriculture, forestry and hunting, fisheries and potable water. Where the report refers to the MOA agricultural budget, this means the MOA budget excluding, forestry, fisheries and potable water. All data are in current prices unless otherwise stated. The analysis examines budgeted amounts for all years. Budgeted and actual spending for MOA were very similar in all years except 2008, when MOA spending was supplemented by 31bn KZT from the reserve fund that was allocated through Kazagro.

28. The MOA budget allocation was 139 bn. KZT in 2008. The report does not cover other sources of funding for the agricultural sector, specifically, Kazagro's external borrowing and funds allocated to it from the national fund. In 2008, total Kazagro funding amounted to \$1.2 billion, 70% of which came from external and domestic borrowing. In 2009, Kazagro received 120 bn. KZT from the national fund.

MOA Budget Trends

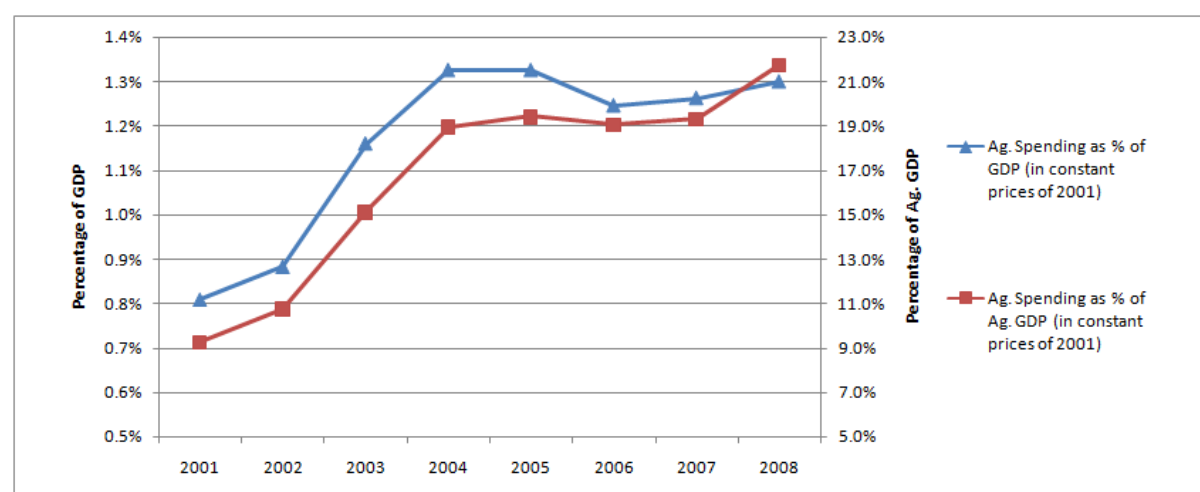
29. **Large increases in the MOA budget have taken place since 2001, reflecting the Government's increased prioritization of agriculture during the last eight years** (Figure 7). The MOA budget as a percentage of agricultural GDP has increased from 9% in 2001 to 21% in 2008 (Figure 8). MOA budget allocations (inclusive of agriculture, forestry, hunting, fishing and the provision of potable water) rose from 26.3 bn. KZT in 2001, to 81 bn. KZT in 2005, to 139 bn. KZT in 2008. The average annual increase in the MOA budget in real terms between 2002 and 2008 was 17%, although this number has declined from 20% in 2002 to 6% in 2008, and is projected to decline to 2% by 2011. However, the budget for 2009 has already been supplemented by an off-budget allocation of 120 bn. KZT from the National Fund under the Crisis Program. This is provided as a credit line through Kazagro, and almost doubles the public spending for agriculture in 2009.

Figure 7 MOA agricultural budget in nominal and real terms



Source: Ministry of Agriculture

Figure 8 MOA budget as a percentage of agricultural GDP



Source: Ministry of Agriculture

MOA Agricultural Budget by Organization

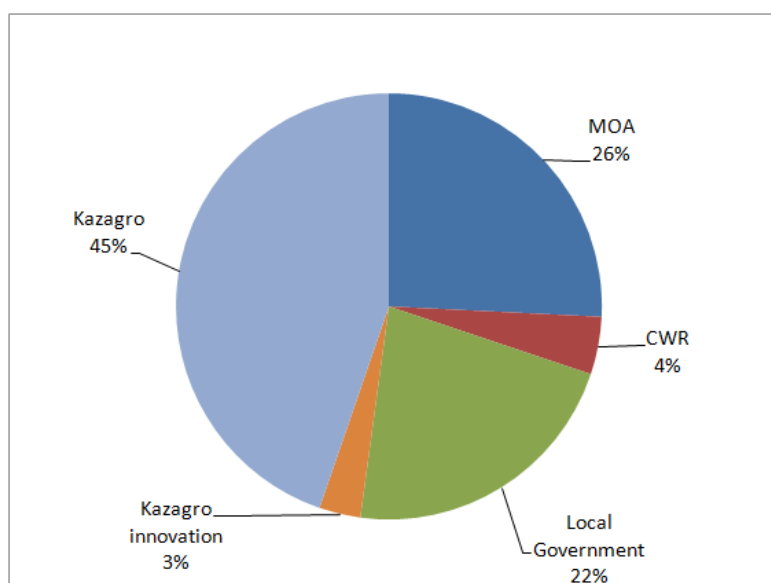
30. **Figure 9 illustrates which organizations spend the MOA agricultural budget.** The Ministry of Agriculture (MOA) is the formal “Budget Administrator” as defined in the budget law. But, the MOA transfers budget funds for agriculture to a number of implementing organizations, depending on the purpose of the funds. These include the state owned enterprise (SOE) Kazagro and its subsidiaries (Food Contract Corporation (FCC) responsible for output market intervention and more recently seasonal credit; Kazagrofin responsible for machinery leasing and credit programs; Agricultural Credit Corporation (ACC) which provides credit; Kazagromarketing mainly responsible for market information; Fund for Financial Support of Agriculture (FFSA) which provides microfinance; and Mal Onimderiy Corporation responsible for marketing of livestock products); Kazagroinnovation a separate SOE responsible for research and technology development; the Committee for Water Resources (CWR) and; local government. A large share of the agriculture budget is therefore allocated outside of the state treasury system.

31. **In 2008, Kazagro accounted for 45% of the MOA agricultural budget.** Since its formation as a state owned holding company in 2007, Kazagro has taken a dominant role in public spending for agriculture. Kazagro is essentially a development agency which acts as the implementation arm of the state in the agricultural sector. In addition to appropriations from the budget, Kazagro accesses loan finance from domestic and international markets. The share of Kazagro spending by Kazagro subsidiary is shown in Table 4.

32. **The share of the MOA agricultural budget allocated through local government is high due to the fact that the large program of area subsidies and most production subsidies are realized at sub-national level.** In 2008, local government was responsible for implementing 22% of the agriculture budget. The MOA spends 26% of the budget itself, and the CWR 4%. The CWR also manages large state budget appropriations for potable water supplies, which are not included in this part of the analysis.

33. **The MOA agricultural budget administered by the MOA itself, is spent on administration and crop and livestock services,** mainly relating to inspections, crop protection, livestock inspection, livestock disease control and veterinary services.

Figure 9 MOA agricultural budget by organization in 2008



Source: Ministry of Agriculture

Table 4 Kazagro funds from the MOA agricultural budget by subsidiary

Kazagro Subsidiary	2007	2008
Kazagrofinance	20%	30%
Food Contract Corporation (FCC)	25%	33%
Agricultural Credit Corporation (ACC)	31%	24%
Foundation for Financial Support of Agriculture (FSSA)	6%	6%
Mal Onimderi Corporation	4%	2%
Other	13%	6%
Total	100%	100%

Source: Ministry of Agriculture

MOA Budget Trends by Subsector

34. Budgeted expenditure on crop related programs has consistently been substantially higher than for livestock related programs (Table 5 and Table 6). Livestock production contributes almost as much to agricultural GDP as crop production. While the spending on crops and livestock need not necessarily be proportionate to their contribution to agricultural GDP, this does suggest the need to examine the requirements for and the relative efficiency of further public spending in the crops and livestock sub-sectors. Given that the majority of livestock output is produced by household plot owners, the relative allocation of spending on crops and livestock strongly influences the distribution of benefits between farm types.

Table 5 MOA agricultural budget by functional groups (sub-sectors)

	2002	2004	2006	2008
Crops	55 %	42 %	45 %	40 %
Livestock	11 %	14 %	15 %	16 %
Processing	0 %	1 %	0 %	0 %
Cross-sectoral	34 %	43 %	41 %	43 %
Total	100 %	100 %	100 %	100 %

Source: Kazakhstan Statistics Office

Table 6 Agricultural gross output (millions of KZT)

	2002	2004	2006	2008
Crops	325,283	391,249	432,492	679,674
Livestock	232,107	307,584	420,821	636,750
Total	557,390	698,833	853,313	1,316,424

Source: Kazakhstan Statistics Office

MOA Agricultural Budget Expenditure Trends by Functional Category

35. The MOA budget includes four sectoral categories which are agriculture, forestry and hunting, fisheries and potable water (Table 7). Potable water supply increased from 9% in 2002 to nearly a quarter of total MOA budget in 2008.

Table 7 MOA budget by sectoral category

	2002	2004	2006	2008
Agriculture	83%	75%	78%	71%
Forestry and Hunting	6%	5%	5%	5%
Fisheries	1%	1%	1%	1%
Potable Water	9%	19%	16%	23%
Total	100%	100%	100%	100%

Source: Ministry of Agriculture

36. For the purposes of analyzing the agricultural budget of the MOA, it has been broken down into functional categories. For the purposes of budget analysis, the 79 programs under agriculture have been categorised under eight functional categories:

- Subsidy Programs (sub-divided into 6 types of subsidy)
- Credit Programs
- Market Intervention Programs
- Crop and Livestock Services
- Infrastructure
- Research and Extension
- Administration
- Cross Functional

37. A brief description of some the main types of programs operated under each of these categories follows:

Subsidy Programs

38. The percentage of budgeted spending on each type of subsidy program is shown in Table 8. About 20 different subsidy programs are included under this heading, which can be broadly categorised as follows:

i) Area subsidies: These are also referred to in the budget as spring field and autumn harvesting works subsidies. These are administered by local government. Area subsidies are being paid to farmers for 11 crops in 2009 and are intended to cover 82% of arable land. Different levels of subsidy for different crops were established in 2009. In the two previous years, subsidies were paid as a flat rate for all crops. Different subsidy levels depend on an assessment of production costs and the percentage of domestic consumption provided through imports (referred to as import dependence). The subsidy rates for different crops for 2009 are shown in Table 9.

ii) Production subsidies: a range of subsidy programs administered by either MOA or local government for the provision of subsidies to producers for specific livestock breeding and production, seed breeding and multiplication projects, or for the purchase of inputs such as fertilizer and fuel. These programs administered by local government are referred to as targeted transfers. Some of these programs may also be referred to as input subsidies. The majority of these programs are currently for livestock production.

iii) Interest rate subsidies: Kazagro subsidiaries (Kazagrofinance, Fund for Financial Support of Agriculture (FFSA), Agricultural Credit Corporation (ACC) and more recently the Food Contract Corporation (FCC)) provide finance at subsidized interest rates supported by the Government. These interest rate subsidies are provided under the credit programs described separately under para. 39 Interest rates subsidies are provided as follows:

- Kazagrofin provides credit and leasing finance at subsidized interest rates;
- ACC provides loans to farmers at subsidized interest rates;
- FFSA provides microfinance loans to small farmers at subsidized interest rates;
- FCC provides credit for the purchase of fuel and fertilizer for spring planting at subsidized interest rates.

iv) Irrigation water subsidies: These are administered by local government. Water users (e.g. water user associations) are directly reimbursed for a share of the costs of purchasing water from the raion level CWR.

v) Standards subsidies: This small budget item includes subsidies to processors for upgrading to meet sanitary standards.

vi) Insurance subsidies: The MOA assumes a part of the risk of weather-based crop insurance provided by private insurance companies⁷.

Table 8 Breakdown of MOA agricultural budget subsidies

	2007	2008
i) Area subsidies	59%	59%
ii) Production subsidies of which	30%	32%
<i>Livestock production</i>	26%	27%
<i>Crop production</i>	4%	5%
iii) Interest rate subsidies	5%	5%
iv) Irrigation water subsidies	3%	3%
v) Standards subsidies	1%	1%
vi) Insurance subsidies	1%	0%
Total	100%	100%

Source: Ministry of Agriculture

⁷ The WB prepared a technical note on agricultural insurance in 2005.

Table 9 Area subsidies 2009

Crop	Crop Area (000 ha)	Subsidy per ha (KZT)	Cost of Production/ Ha (KZT)	Subsidy as % of production costs	Total subsidies (mln. KZT)
Traditional grain crops	14,718	450	14,763	3%	6,623
Moisture preserving crops	1,535	900	14,763	6%	1,381
Corn	97	2,500	67,784	4%	242
Fodder crops	442	800	14,236	6%	353
Oil crops	820	4,790	15,753	30%	3,926
Sugar Beet	12	40,000	160,291	25%	496
Rice	84	14,000	74,054	19%	1,173
Vegetables	93	9,000	293,644	3%	836
Fruit	23	3,600	117,532	3%	81
Cotton	168	7,000	104,356	7%	1,173
Vineyards	9	4,400	147,750	3%	40
Potatoes	62	2,500	343,539	1%	154

Source: Ministry of Agriculture

Credit Programs

39. This functional category mainly includes the provision of funds to the Kazagro subsidiaries (Kazagrofin, FFSA, ACC⁸) for provision of credit, lease finance and microfinance. The interest rate subsidies under these programs are described separately under para. 38.

- Kazagrofin operates a machinery leasing program and a soft medium-term credit program.⁹
- ACC provides credit lines for agriculture.
- FFSA provides microfinance to small farmers directly and through lines of credit for 51 microcredit organizations, operating in 94 raions.
- FCC operates a credit line funded from the National Fund for purchase of fuel and fertilizer for spring planting.

Market Intervention Programs

40. This category includes the funding provided to FCC for the purchase, handling and storage of domestic grain. This is for establishment of a grain reserve, and for buying and selling in the grain market to stabilize prices, particularly in cases where there is unusually high demand for Kazakh wheat from exporters, causing a dramatic increase in domestic grain prices such as in 2008.

Crop and Livestock Services

41. This category covers essential public services which include, inspection of processing facilities, crop protection, livestock inspection, public veterinary services, livestock disease control. The latter particularly concerns diseases such as brucellosis, foot and mouth disease, anthrax, and rabies, which are either of great economic importance or potentially transmittable to humans.

Infrastructure

42. This category is mainly rehabilitation of irrigation and drainage systems, related environmental works and other miscellaneous costs such as MOA building repairs.

⁸ FCC have also started providing credit for crop production but this is funded by the National Fund not the MOA budget and not included in this budget analysis).

⁹ Kazagro also operates service stations to maintain local machinery

Research and Extension

43. This category includes mainly Kazagroinnovation agricultural research program costs and some minor MOA costs.

Administration

44. This category includes salaries, various administrative costs and training within the MOA and its local branches.

Cross Functional

45. This category includes counterpart contributions to the operations of some donor funded projects.

46. The breakdown of the MOA agricultural budget by functional category in 2001 and 2008 is shown in Figure 10 and Figure 11, respectively. The trend in the budget from 2001 -2011 is shown in Figure 12.

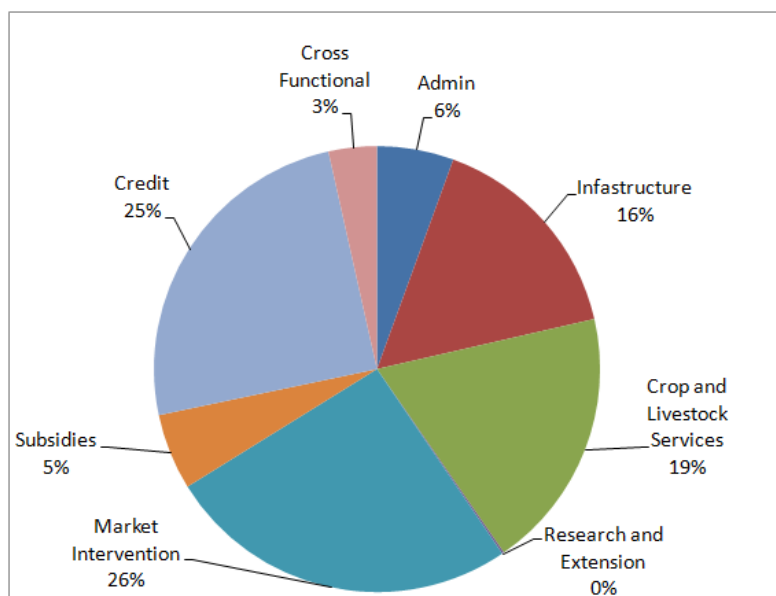
47. **The share of subsidies in the MOA agricultural budget has increased dramatically from 6% in 2001, to 24% in 2008** and is scheduled to increase further to 39% by 2009. Within the subsidy budget the key projected trends are as follows:

- The largest share of the subsidy budget goes to area subsidies which represented 59% of subsidies in 2008. These are scheduled to decline to 43% in 2009.
- Production subsidies are now mainly for livestock production (mainly for breeding and feed). These are scheduled to increase from 32% of the subsidy budget in 2008 to 47% in 2009.
- Irrigation water subsidies represent a small percentage of subsidies (3%) and are budgeted to remain at this level in 2009.

48. **The share of credit programs in the MOA agricultural budget has remained relatively stable** increasing from 24% in 2001 to 27% in 2008.

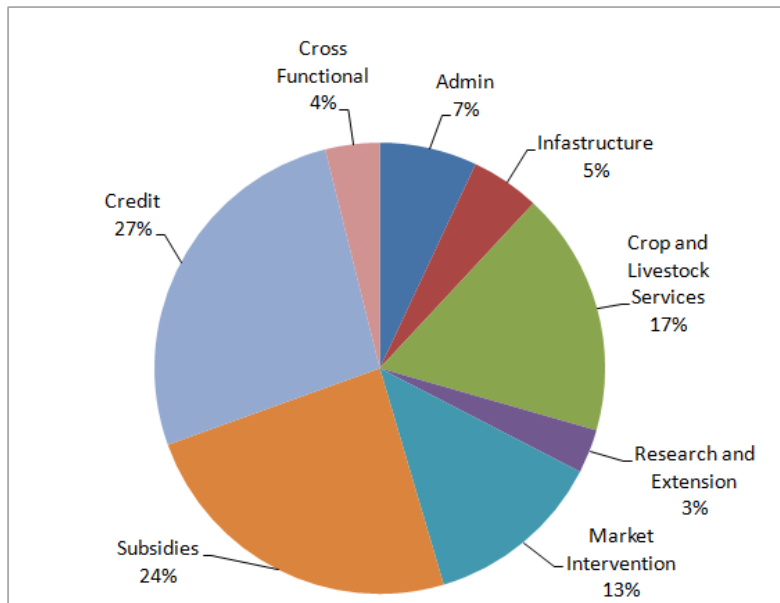
49. **The share of the MOA agricultural budget allocated to market intervention has decreased from 26% in 2001 to 13% in 2008, and the allocation to infrastructure, mainly irrigation and drainage, from 16% to 5% during the same period.** Other areas of the budget, including administration and crop and livestock services, have been relatively stable as a share of the budget. Research, extension and infrastructure have been given low priority in budget allocations.

Figure 10 MOA agricultural budget by functional category in 2001



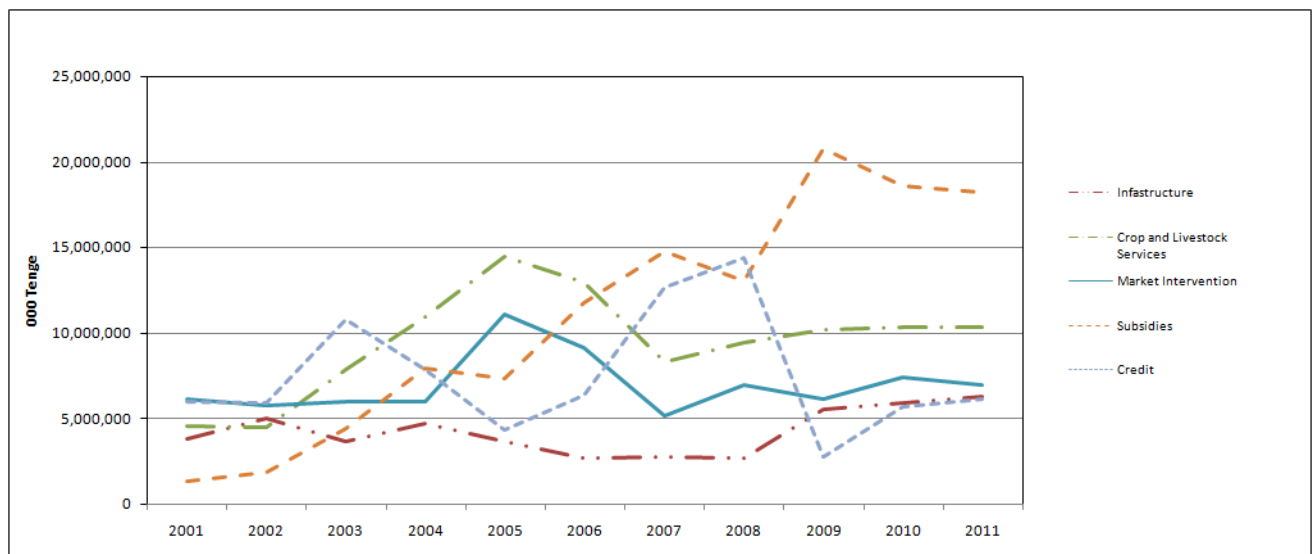
Source: Ministry of Agriculture

Figure 11 MOA agricultural budget by functional category in 2008



Source: Ministry of Agriculture

Figure 12 MOA agricultural budget by selected functional categories 2001-2011 (Constant 2001 Prices)



Source: Ministry of Agriculture

B. Socio Economic Analysis of the Spending Program

50. **The government has strongly supported the sector** by putting in place substantial programs and institutional arrangements to provide finance (including micro-finance) machinery, and inputs. It has also invested substantially in essential public infrastructure, including irrigation and drainage, and public services such as research and development, market information, sanitary and phytosanitary inspection and to some extent advisory services. The government has sought to maintain economies of scale in the sector by promoting the vertical integration of input supply production and processing such as in the “cotton cluster” in the south. These have been substantial and ambitious programs.

51. **In shifting to strategic budget planning in 2007, the government sought to ensure better targeting of public spending.** This section examines the formulation of the spending program and its alignment with the government’s three Strategic Sub-Directions¹⁰ of competitiveness, food security and accession to the WTO. It also examines the effectiveness and efficiency of the spending program in implementing the strategy. It critically examines to what extent the programs bring about permanent structural and technological change in the sector to improve competitiveness rather than providing temporary financial support to farms; the mechanisms through which the programs achieve food security particularly for low income households and; the implications of the programs for WTO accession.

Spending Program Formulation

52. **Partly as a result of weak situation analysis in the Strategic Plan, there is insufficient alignment between the budget and the Strategic Plan** and inadequate explanation in the Strategic Plan of the way in which major programs such as the credit programs and subsidy programs contribute to the strategic directions. The lack of alignment with the strategy is largely due to the absence of economic analysis, particularly with regard to the main spending programs relating to subsidies and credit. Very large amounts of public funds are being spent without clear and evidence-based analysis being carried out. For the irrigation and drainage spending program, a feasibility study and economic analysis are already built into the system. While there may be questions about the quality of the analysis, a system of scrutiny exists and is reasonably transparent. This is not the case for subsidy and credit programs.

53. **The large numbers of programs and diversity in size of programs makes it difficult to monitor and analyze existing expenditure and outcomes,** and to plan new expenditure specifically:

- The MOA Strategic (Budget) Plan 2009-11, has too many programs, 79 in total. This is a much larger number than is typically found in agricultural budgets of other countries which practice program budgeting. In most such countries, spending activities are clustered around 6-10 main program areas.
- The MOA’s program budget structure is also somewhat unstable, with substantial changes taking place from year to year. For the 2008 MOA budget, there were 46 programs while for the 2009-11 budget there are 79 programs.
- Programs in the agriculture budget are extremely varied in size, ranging in value (in 2009) from 19 billion KZT (017/732/737 Water Transfers to Regions for Water Supply Systems Development) to 165,000 KZT (Government Awards in the Field of Agricultural Science).

¹⁰ These are the three strategic sub directions under Strategic Direction One in the Strategic Plan: “Sustainable development of the agro-industrial complex sectors, increasing their competitiveness, ensuring food security and adaptation of agrarian production to the WTO accession conditions”.

Effectiveness and Economic Efficiency

Rationale for the Programs

54. In examining the rationale for a program, is important to: a) identify how the program will contribute to the stated goal; b) examine whether the program is economically efficient - if it is not, indicate the social, environmental or other rationale for the program; c) examine whether the program will bring about permanent structural or technological change to permanently increase productivity; d) identify the market failure which the program is intended to address, which justifies the need for public intervention; e) examine whether the program reduces or at least does not exacerbate income disparity; f) examine adherence to WTO rules; g) examine the costs of administering the program; h) examine whether it is more or less economically efficient than alternative measures in achieving the same goal.

55. Before discussing the specific programs, it is useful to further discuss some of the government's common rationales for the spending programs¹¹ - these include: improved competitiveness or efficiency of production, food security, rural employment, promotion of new technology and promotion of processing.

56. Financial and economic efficiency rationale: There is often a misunderstanding of the meaning of financial efficiency and economic efficiency. Financial efficiency refers to the profitability of a business entity (e.g. a farmer), while economic efficiency refers to the profitability of the economy as a whole (i.e. the whole of society)¹². Subsidies involve a transfer from one part of society (taxpayers) to another (e.g. farmers). While a subsidy may yield net benefits for farmers, they do not necessarily yield net benefits for society as a whole.

57. For example, a subsidy on fertilizer prices, will reduce the costs of wheat production for a farmer and his business may be more financially profitable (financially efficient) as a result. However, this does not mean that the subsidy increases the economic efficiency of production. The subsidy is paid for by taxpayers and so the costs to society of producing wheat has not changed. If the value of additional wheat produced as a result of the subsidy is less than the cost to society of producing the additional wheat, which includes the cost of the subsidy, then there is no economic gain to society and the subsidy can be considered economically inefficient. This is likely to be the case when a subsidy results in farmers cultivating marginal quality land, which it would not be financially profitable to cultivate in the absence of a subsidy.

58. The economic costs and benefits of subsidy programs needs to be compared with those of alternative uses of public funds. In this respect it is important to bear in mind that some public investments such as investment in research or public infrastructure may yield benefits for many years to come, whereas any benefits to producers from a subsidy only occur in the year in which they are provided. For example, if government were to subsidize the price of a water saving technology, with the objective of promoting the new technology, this should be compared with investment of the same funds in research into water saving technology. Subsidizing the price of a new water saving technology does not change the price of the technology to society, but investment of the same public funds in research, might bring down the cost of the technology to society permanently.

59. Food security rationale: Government's key concern should be the ability of low income households to pay for food. The physical availability of domestically produced and imported food is not a constraint in Kazakhstan. Improved food security is indicated as one of the goals of the subsidy programs. There are several questions which it is reasonable for a government to consider in developing its food security policy.

¹¹ Described in government's comments on earlier drafts of this report.

¹² For example, the analysis of investment projects normally provides an assessment of the financial viability of for example an irrigation and drainage project for farmers and an assessment of the economic viability of the investment for the economy.

- a) Is there a threat to the physical availability of food at national, regional and household level? There is not a threat to food security in the case of Kazakhstan. Kazakhstan is a major international exporter of wheat. Although it is a net importer of a wide range of agricultural fresh and processed products (meat, dairy products, vegetables, potatoes), it has good access to and established trading relationships with international markets, numerous borders with Russia, the Central Asian States and China as well as access to the Caspian Sea ports. It also has a storage, road and rail network which is sufficient to ensure that domestically produced and imported food can be distributed to all regions and households. In addition to food, which is traded domestically and imported, rural households fulfil part of their nutritional needs from household plot production.
- b) Ability to pay for food at national and household level: Kazakhstan is an oil rich country with more than sufficient foreign reserves to pay for food imports. The government's main concern in relation to food security should be the ability to pay for food at household level. For the very poor, this may be a long term problem and the appropriate policy response is to set an appropriate level of social safety net. For the less poor, this may be a transitional problem caused through food price fluctuations and periods of economic recession. The appropriate policy response in this case may be a temporary expansion of the criteria for those qualifying for social safety net payments. An additional approach, practised in some countries, is to establish national stocks for intervention in the market to influence prices. To be effective these need to be large enough to influence market prices and markets need to be sufficiently competitive that there is price response to the increased volume on the market. In a relatively small economy, with an open trade regime, where prices are largely determined by international prices, this may not be an effective strategy for all products. The decision on how much and when to release reserves onto the market also requires careful judgement. Adjustment of the criteria for qualification for the social safety net may therefore be a more straightforward solution. A more permanent long term solution, is to promote programs which are targeted at raising the incomes of the rural poor, including small farmer, so that they can afford to buy more food.

60. Furthermore, programs which aim to increase wheat domestic production in an economy with a free trade regime like Kazakhstan, will anyway, not affect the total supply on the domestic market (only the proportion which is domestically produced) or market price and so will not affect food security.

61. Other non-efficiency rationale: As in many fast growing oil rich economies, the Kazakh government faces a major challenge in addressing increasing income disparities between urban and rural populations. In such cases, agricultural subsidy programs are often used as a means of temporary income support, until such times as other opportunities emerge in the non-farm sector. In well developed economies, governments have various other non-efficiency objectives in mind when designing agricultural policies, such as maintaining employment in rural areas to preserve rural communities or ensuring the stewardship of natural habitats and landscapes.

62. These all provide a valid rationale for agricultural support programs. For strategic planning purposes, it is important, firstly, that the non-efficiency rationale for such programs is clearly stated in the sector strategy and program designs, so that the program can be properly evaluated; and secondly that a thorough assessment is made of whether the program is the least costly and most effective way of achieving that non-efficiency objective. For example, direct income support or funding for retraining, may provide a more effective means of supporting rural incomes and facilitating a shift to the non farm sector than agricultural subsidy programs, which may actually impede restructuring of the sector and migration to the non farm sector.

63. This section now examines some of the specific programs in more detail.

Area Subsidies

64. **Area subsidies** will be paid for 11 crops in 2009 at a total cost of 18 million KZT and covering 82% of arable land.

65. **Area subsidies are not justified for food security, efficiency or income distribution reasons** for the following reasons:

- **Area subsidy programs are intended to address food security by increasing food production but the key constraint to food security is poor households' ability to buy food, not insufficient availability of food, as discussed.** Furthermore, subsidies are also paid to farmers of traditional grain crops, for which Kazakhstan is one of the largest exporting countries in the world.
- **Area subsidies temporarily provide financial support to farmers, but fail to promote productivity (competitiveness) in facilitating structural change (change towards the most efficient ownership, management or cropping structures) or technological improvements,** and so do not increase the efficiency of agricultural production. They simply represent a transfer from taxpayers to farmers.
- **Area subsidies lead to the cultivation of marginal land which is economically inefficient** - an area subsidy means that land which would not be financially viable and excessively risky for farmers without a subsidy, becomes financially viable for the individual farmer. Society therefore pays the farmer to cultivate marginal land which generates a loss to the economy.
- **Area subsidy programs exacerbate income disparities because larger farmers will capture a relatively higher proportion** of the subsidies than smaller farmers. The main beneficiaries are those farmers who use a large area of land and those who have better soils. The quality of soil plays a role because sugar beet production, for which the payment per hectare is by far the highest, requires the best soils. Thus, the present system does little to improve the income of the poorest section of farmers who make their living from household plots.

66. **Differentiated crop area payments are even less efficient than flat rate area payments.** Crop specific area payments in 2009 vary between 450 KZT/ha for wheat and 40 000 KZT/ha for sugar beets, a shift from the flat rate payments in previous years. The key determinants of the level of subsidy are, a) the level of import dependency and b) production costs, although these factors do not explain the differences which range from 450 KZT/ ha to 40 000 KZT/ha or from 0.7 to 29.9% of production costs (Table 9). These subsidies are even less efficient than flat rate area payment for the following reasons:

- **Differentiated area payments** tend to favor the production of crops in which Kazakhstan is not highly competitive. Because these crops are unprofitable in the absence of subsidies, domestic production is inadequate to meet domestic demand and the economy is therefore more dependent on imports. Since import dependency is one of the key criteria for setting area subsidy rates, these crops tend to have higher area payment rates than for crops which Kazakhstan can produce competitively. Take for example the high area subsidy paid for growing sugar beet. Sugar beet production was on average loss making each year between 2004 to 2007, in spite of high world market prices in 2005, 2006 and 2007. The high subsidy for sugar production of 25% of production costs, encourages more production of a crop which is unprofitable for society as a whole, i.e. economically unprofitable. This runs contrary to the objective of budgetary policies, aimed at promoting productivity and competitiveness in the agricultural sector.

- **The most damaging impact of different area subsidies for different crops is that they delay structural adjustment of the sector, both in terms of cropping and farm ownership** - subsidies mask market signals and slow down the sector's natural adjustment to production of crops in which the sector is most competitive. Furthermore, they mask the inefficiency of some producers who in the absence of subsidies would naturally leave the sector and lease their land to more efficient producers.
- **Differentiated area payments are even less compatible with WTO rules than flat rate area payments.** Kazakhstan applied for WTO membership in 1996. Currently, only negotiations with three members of the working group are open. There is a serious concern that WTO membership will be delayed if the domestic policy changes after application are not in line with WTO rules. Differentiated area payments are not in line with WTO rules as they distort input use and production.

67. The increase in the proportion of agricultural spending on subsidies and the relative decline in the proportion of spending on public service provision between 2001 and 2009 is dramatic and may have led to a decline in the economic return on public spending in the sector. Given the often high economic return on investment in essential public services and infrastructure and the often low economic return on investment in subsidy programs, the overall efficiency of public spending in the sector may well have declined.

68. The present amount of 'amber box' measures surpasses the allowed WTO De-Minimis-Rule by a large margin. This rule states that non-product specific agricultural support should not be higher than 5% of the value of agricultural production, and that product related payments should not be higher than 5% of the value of the product under consideration. According to calculations by the Department in the MOA, which is in charge of preparing for WTO negotiations, total payments for the period 2006 -2008 have already surpassed 10%, and the steep increase in subsidies in 2009 will widen the gap further. Hence, WTO accession will require a significant change in policy on agricultural subsidies. While the acceptable levels of amber box measures for any country are negotiable, experience shows that it is highly unlikely that Kazakhstan would be able to negotiate levels of direct support exceeding 10%, for either non-specific or specific product groups. China was required to reduce support to 8.5%, even though most members at the time of negotiation had levels of support which were higher than this.

69. There are not strong incentives for those local organizations responsible for program management to provide the reliable information required to implement programs effectively and efficiently. Local authorities, MOA local units and more recently oblast administrations have been delegated responsibility for many aspects of program management. While no assessment of the accuracy of information provided by these organizations has been undertaken for this study, in theory, they have limited incentives to invest time in ensuring the accuracy of information about beneficiary farmers, which is necessary for effective management. Such information could potentially result in lower allocated subsidies to the region. Take, for example, the area subsidy program for specific crops. The farmer has to inform the Rayon and Oblast Administration about the area cropped, but both the farmers and the Administrations may have an incentive to inflate this information to secure a larger transfer of funds to the region. Apart from poor incentives, there are practical difficulties in measuring actual crop areas planted by each farmer.

Production Subsidies

70. Production subsidies are to increase significantly under the 2009-20011 budgets. Most of these subsidies are allocated through Oblast Administrations for well defined activities such as livestock breeding or seeds production. Livestock production has a high priority under this type of subsidy. Rates paid for some of these programs in 2007 to 2011 are shown in Table 10.

Table 10 Product subsidies for livestock

KZT/ Kg	2007	2008	2009	2010	2011
Beef	90	125.5	134.5	134.5	134.5
Pork	88	98	98	98	98
Wool			142	142	142
Poultry meat	47	66	66	66	66
Milk		6	12	12	12

Source: Ministry of Agriculture

71. The government's rationale for production subsidies is to improve food security but it is unlikely that these programs will affect the key factors determining food security: a) a product subsidy will result in some increased domestic production, which may substitute for imports, but the overall supply of the product to the market will remain unchanged; b) the market price, in a relatively small economy with an open trade regime price like Kazakhstan, will be determined by the import price plus import tariff rather than domestic supply, so the program is unlikely to influence the market price; and c) unless the target product is one which is mainly produced by the rural poor who have least food security, their incomes will not be affected.

72. Such programs are difficult and costly to administer unless there is a natural bottleneck through which all products pass (such as for processing units for sugar or cotton), where the volume of production can be easily measured. The European Union had an extremely bad experience with product subsidies even for products with a natural bottleneck in the marketing chain. Production of durum wheat, olive oil and tomatoes, for example, was highly over-reported by farmers or processors in order to earn higher subsidies.

73. There are obvious negative distributional effects of a production subsidy. The higher the volume of production (i.e. the richer the beneficiary), the higher the payments received. Poor people will only benefit if market prices decline as a consequence of the subsidies, but this will be unlikely in an economy with a relatively open trade regime.

74. In common with area subsidies (as discussed under para. 65), product subsidies do not serve to promote productivity growth or competitiveness of producers since they do not create incentives for greater efficiency or bring about permanent structural or technological change.

75. Production subsidies are classified as 'amber box' in WTO terminology and are not consistent with WTO rules.

Text Box 2 Comparison of Support Total Support to the Agricultural Sector

The OECD publication “Agricultural Policies in Emerging Economies” examines the total support to the agricultural sector and the composition of this support, in the some of the main emerging economies (China, Russian, Ukraine, Brazil, South Africa and Chile) and OECD countries. The Total Support Estimate (TSE) is measured as a percentage of gross farm receipts and disaggregated into: a) Producer Support Estimate (PSE) which includes, market price support (tariffs, export guarantees, guaranteed prices), output based payments and input based subsidies and b) General Service Support Estimate (GSSE).

PSE: The level of PSE in emerging economies was 4% in Chile, 6% in Brazil and South Africa, 9% in China and Ukraine and 14% in Russia 14% - considerably less than an average of 26% in OECD countries - between 2005-2007.

In emerging economies PSE mainly takes the form of market price support (MPS), mainly in the form of import protection, with only Brazil ,Russia and Ukraine providing payments output based payments. In contrast to OECD countries, input based payments are also a major form of support in emerging economies.

The level of PSE in emerging economies dropped between 2006 and 2007 due to a decline in market price support (Text Box Table 1). In Chile and South Africa, this was driven by substantial decreases in unit rates of market price support (-38% and -65% respectively), while in other countries it was driven by a decline in the quantity of output supported.

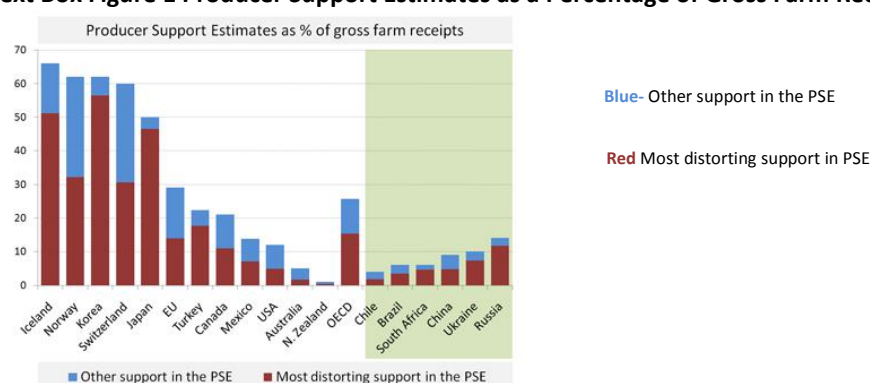
With respect to changes in the type of producer support used, output based payments declined in importance in Chile and South Africa while they increased in importance as a form of support in other emerging economies.

Text Box Table 1

Country	Percentage Change in PSE 2006 to 2007
Brazil	-4.9%
Chile	-5.2%
China	-3%
Russia	-22.6%
South Africa	-47.6%
Ukraine	-56.6%
OECD	-3.9%

The extent to which policies create disincentives for producers to change their production mix in response to market prices, can be gauged by looking at the proportion of PSE provided as single commodity transfers (SCT). In OECD countries, SCT fell from 74% in 1995-97 to 59% in 2005-07. In the emerging economies, SCTs represent a low proportion of PSE in Chile and China (<30%) but a high proportion in Brazil and Ukraine (around 50%). Text Box Figure 1 shows the relative importance of PSE measures which most severely distort production decisions, in OECD and emerging countries.

Text Box Figure 1 Producer Support Estimates as a Percentage of Gross Farm Receipts



Text Box 2 continued..

GSSE: GSSE includes research, extension and training, inspection, infrastructure, marketing and promotion, and public stockholding. Many of these represent investments that increase the long term competitiveness of agriculture rather than provide short term transfers to producers as is the case for PSE type support. In the six emerging economies, a greater proportion of TSSE is provided by GSSE than in OECD countries – about half in South Africa, about one- third in Chile and about one quarter in Brazil and China. The relative importance of GSSE in support has increased in South Africa and Chile but decreased in Brazil and China and remained stable in Russia.

Investment in infrastructure is a major form of GSSE in emerging economies. In Chile and South Africa, Research and Extension spending is also important, in Russian and Ukraine spending on inspection has increased significantly, while in China public stockholding is important.

TSE: TSE as a percentage of GDP is about 1% for OECD countries. In China, it has risen from 1.5% in 1995-97 to 2.0% in 2005-07. In Ukraine, it represents about 2.5, while in Chile, Brazil, Russia and South Africa it represents less than 1%.

Credit Programs

76. Credit programs amounted to 27% of the MOA budget in 2008. MOA spending on credit programs is mainly for the provision of funds to the Kazagro subsidiaries (Kazagrofin, FFSA, ACC) for the provision of credit, lease finance and microfinance. In the case of FFSA, this involves the provision of lines of credit to micro-credit organizations for on-lending to small farmers.

77. It is recognized that in the current financial sector climate, a substantial increase in agricultural lending from private financial institutions is unlikely. In the medium term, there is much greater potential for increased lending from private financial institutions but this will not be realized as long as private lenders are crowded out by dominant subsidized state credit programs. Agricultural lending is problematic by nature due to the risks associated with climatic variation and disease incidence, the high costs of acquiring reliable information about borrowers and high monitoring costs, particularly for small farmers. Nevertheless, the private sector has developed innovative approaches (warehousing receipt schemes, crop insurance, social collateral based lending, rotating savings and loan schemes) to overcome these constraints in many countries and some of these approaches have also been used by the private sector in Kazakhstan (Text Box 3). Further support to development and expansion of such mechanisms in Kazakhstan would encourage more private sector lending for agriculture. A substantial expansion of private sector lending to agriculture in the short term is unlikely in the current financial sector climate. However, in the medium term, there is much potential for expansion of private sector lending, which is currently crowded out by the dominance of subsidized state credit programs.

78. The capture of the least risky borrowers by Kazagro subsidiaries operating state credit programs, means that private sector lenders are left to serve the least creditworthy borrowers. Consequently, their interest rates are higher and their credit volumes much lower, than would be the case in the absence of such dominant state credit programs.

79. The restrictions on Kazagro subsidiaries in setting different interest rates for different investments based on risk assessment, creates a disincentive for them to lend to high risk – high profit investments, which can be important drivers of innovation and progress in the sector. A proper assessment of the cash flow requirements and risk associated with such investments as well as adequate provision of collateral, would allow such investments to be financed, if Kazagro subsidiaries had greater flexibility in setting differential interest rates.

80. The government has put in place institutional arrangements to provide some credit to small borrowers and encourage the development of microcredit organizations (MCOs). The FFSA provides microloans for small farmers and rural entrepreneurs including, through credit lines to 51

MCOs. During the first six months of 2009, the FFSA provided credit lines to MCOs totaling KZT 577.55 million for on lending to rural areas, benefiting around 16,000 borrowers. The 2009 budget for FFSA represented about 5% of the total budget for Kazagro subsidiaries.

81. However, interest rate restrictions create a disincentive for other Kazagro organizations to lend to smaller borrowers. Small loans incur higher transaction costs per Tenge lent than larger loans. A private lender would typically increase its interest charges to cover the higher transaction costs but the Kazagro subsidiaries are restricted from doing this and so have a disincentive to lend to small borrowers. Interest rate restrictions are commonly based on an assumption that the limiting factor in credit provision is a lack of demand at market interest rates. Removal of such interest rate restrictions may reveal that there is a high demand at market interest rates but that the limiting factor may be limited supply because of the poor quality or the low financial viability of loan applications. A further assessment of the usefulness of interest rate restrictions in increasing access to credit is therefore warranted.

82. Kazagrofin provides lease finance at highly subsidized interest rates, which undermines the private lease and rural finance market and the development of a long term foundation for private sector financing of farm equipment. Leasing contracts generally last for seven years, but can run up to 12 years. Beneficiaries have to pay an advance payment of 15-25% and receive the remaining part as a loan at interest rates as low as 6%, if financed out of the budget allocation. Over time, KazAgroFin has been able to expand its programs significantly, from 38 bn. KZT in 2008 to 104 bn. KZT in 2009. The increase has mainly been funded from the National Fund (in 2009) (20.6 bn. KZT at 6 % interest) and foreign borrowing (18 bn. KZT at 12.5 % interest on average). Thus, the interest rate for leased equipment may be as high as 12.5 % for some borrowers but is nevertheless far below the market rate of about 18%. This creates a disincentive for private lenders to enter the lease finance market as they would find it difficult to compete with Kazagrofin's subsidized interest rates.

83. The Kazagrofin programs include some features which ensure equitable distribution of benefits from the programs. Kazagrofin programs are required to: a) meet requests from small farmers as a priority; b) ensure not more than 10 percent of the total purchase of each type of item is allocated to one lessee and; c) ensure proportional distribution of leasing contracts by the regions.

Text Box 3 Innovative Approaches to Providing Credit to the Agricultural Sector

Innovative Lending Products: PRODEM is one of the largest providers of rural finance services in Bolivia. It conducted donor supported market research and product development to adapt its range of financial products to suit client needs, including financing the needs of small farmers. A customized repayment scheme was introduced for small farmers, with a differing repayment schedules to fit the harvest calendars and cash flows of individual borrowers. Individual loans were introduced with a collateral ratio requirement of 1.5:1 to the loan amount. PRODEM further minimizes risk by restricting final loan payments to 60% of the total loan. Money transfer, microleasing and microsavings products were also designed. Agricultural lending now accounts for one-fifth of PRODEM's loan portfolio. *Source: Agricultural Investments Sourcebook, 2005.* Also see: <http://www.prodemffp.com/ingles>.

Agriculturally Based Credit Unions: SICREDI is the second biggest credit cooperative in Brazil. It is based on a savings and loan cooperative/ credit union model that serves the needs of small farmers and their households. It has the following characteristics: members must save before taking loans, it is owned by members, and members have equal voting rights in the organization. Over the last 20 years, SICREDI has evolved from a small network of rural production/credit cooperatives to a sophisticated financial institution, that serves both urban and rural areas. SICREDI has managed to restructure and consolidate its operations in recent years, creating a stronger foundation than other cooperative networks in Brazil. Leaders estimate that 50 percent of SICREDI membership is rural, and that rural credit constitutes 50 percent of the cooperatives' loan portfolio. *Sources: Bank Netherlands Partnership Program (BNPP) Publication January 2007* Also see <http://www.sicredi.com.br/>

Market Linkage Schemes: V&M Grain Company is a leading domestic business company in Mozambique. V&M offers interest free advances to farmers and umbrella groups of producer associations. An overall repayment rate of 98 percent is reported. Advances to producer associations are based on 50 percent of the value of crops at an agreed price, with no other collateral arrangements and are provided for up to 20 days. The umbrella group use a portion of the advance to transport their collected produce to the warehouse, and the rest is distributed downwards to producer associations, who further distribute to their members. *Source: Agricultural Investments Sourcebook, 2005.* Also see: <http://www.vandmrelief.com/grainandexport.asp>.

Warehouse Receipts System: A receipts system in warehouse receipts system is well advanced in USA, Slovakia, Bulgaria, Hungary, Lithuania. Kazakhstan is considered to have one of the most advanced warehouse receipt systems and has good potential for expansion. It has the necessary legislation, supervision and inspection in place and an indemnity fund under public-private management. *Source: The Use of Warehouse Receipt Finance in Agriculture in ECA Countries May 2009.*

Grain Market Intervention

84. The FCC grain reserve is intended to provide some measure of protection against low grain stocks, which the government perceives to be a potential threat to food security. Kazakhstan is a major producer and exporter of grain and so is not generally at high risk of domestic grain stocks dropping to dangerously low levels, while simultaneously being unable to access supplies from other countries. Unusually, in 2008, Kazakhstan did temporarily face what was considered to be dangerously low grain stocks¹³. This was due to a draw on its reserves from other countries, following export bans in Russia and Ukraine. Accordingly, Kazakhstan imposed an export ban which was later removed in favor of the use of a strategic reserve.

85. In addressing its concern about the availability of grain, the government should examine a wider range of factors which influence grain production and marketing. For example, removing administrative barriers to grain trading would increase Kazakhstan's competitiveness in the grain market and stimulate production. Trade tariffs are quite liberal at between 5 and 15 percent (with the exception of a small number of products such as sugar (30%) and rice (20%)) but administrative

¹³ Bread grain stocks stood at 4.7 million tons as of April 10th 2008. Between 1.1 and 1.4 million tons were being exported at this time on a monthly basis. *Source: Kazakh Government web site.*

barriers increase costs between the farm gate and the point of export, reducing farm-gate prices and creating an implicit tax on farmers. The publication “Doing Business 2009” states that non-tariff barriers to trade are significant and only three countries out of 175 listed, are worse than Kazakhstan in this respect. Removing these barriers would help to make the grain export market more efficient, and increase grain producers’ revenues.

Infrastructure Programs

86. Public investment in drainage and irrigation infrastructure is low, but this is an important resource in the South of Kazakhstan. While the government has supported a policy of transferring on-farm systems to water user associations in the South, these systems need substantial public investment before they can be sustainably managed by users. Off-farm systems under state management also require major investments. The potential returns to investment in many of these schemes are very high. It will also be important for the government to invest in the development of the public and private institutions responsible for management of these systems if they are to be successful.

Crop and Livestock Services - Essential Public Services

87. While public spending on subsidy and credit programs has been substantial and is due to increase, some public services and infrastructure, which are critical to improving the sector’s long term competitiveness, remain under-funded. These public services are described briefly below.

Research and extension

88. There are potentially high returns to investment in research and extension. Wheat yields in Canada, whose climatic conditions are similar to Kazakhstan, are according to data by USDA, about twice as high. It would seem that Kazakhstan has significant potential for improved yields if better seeds, adjusted technology and improved crop rotation schemes are used.

89. Public expenditure on research and extension is very low compared to international standards. Kazakhstan’s agricultural potential cannot be exploited by simply importing the needed know-how. Domestic research is needed to adjust the Canadian know-how to the Kazakh environment. Expenditure for agricultural research is still low at only 3 % of total expenditure on agriculture, and the share of spending for research in agricultural GDP only amounted to 0.04%, which is very low as compared to 0.8 % worldwide, 0.5 % in developing countries and 2.4 % in high income countries (2000 data, see World Development Report 2008).

90. There is great variance in farm yields. If the weakest farmers could raise their yields to the level of the strongest farmers, agricultural output could increase significantly. This suggests that investment in extension may yield high returns.

Sanitary and Phytosanitary Control

91. Kazakhstan still faces a major challenge in ensuring that sanitary and phytosanitary (SPS) standards are in compliance with WTO requirements. Further public investment in this area will be critical to ensure that the government can achieve its aim of increasing value added in the sector and ensuring access to export markets, which will increasingly demand adherence to such standards.

Veterinary Services and Epizootic Disease Control

92. Feasibility studies in neighboring countries (Mongolia, Kyrgyzstan) reveal substantial returns to investments in veterinary services for the control of zoonotic diseases (such as brucellosis) both in terms of improved human health and reduced treatment costs and in terms of animal production. Increased public investments to improve veterinary services, support disease surveillance and monitoring systems and implement vaccination programs, would bring about permanent improvements in the competitiveness of the livestock sector.

C. Execution and Performance Monitoring

Execution

93. **The Kazakhstan budget system is strong on compliance and controls, but lacks flexibility.** The control system ensures that funds are used for their intended purposes but the conclusion of the latest World Bank Country Program Portfolio Review was that the system of checks and controls also leads to implementation delays and a lack of flexibility in reacting to changing needs.

94. **The recent assessment of the public finance management system by the World Bank (PEFA, 2009) identified strengths in accounting, recording and reporting.** But, it reported that some standards, particularly for external performance audit, are below international levels. The report states that:

“The scope of external audit did not include the year-end financial statements with respect to the Republican budget and of the Republican government bodies. The government external audit system is organized not fully in line with the international standards (i.e. the principle of the external audit’s financial independence is not fixed by law, and a clear distinction between internal and external audit (CFCP subordinated to the MOF and AC subordinated to the President) is not (yet) in place.”

95. **At the MOA level, the effectiveness of the Internal Control Unit is limited as a source of internal audit and assessment.** It is understaffed and staff has limited awareness of its enhanced role. Given its capacity and institutional setting, it appears unlikely that it will be a strong force for independent evaluation.

Performance Monitoring

96. **The results framework in the MOA Strategic Plan is far too complicated.** There is a proliferation of indicators with around 150 (covering all three strategic directions) at the strategic level alone. There is a mixture of output (e.g. production of laboratories) and outcome type indicators. Many of the latter are production targets. Production targets are inappropriate to a market economy, especially where exogenous factors such as the weather have a significant influence. There are a further 320 indicators associated with the 79 programs. This number of indicators is extremely difficult to monitor and manage effectively. In a complex sector like agriculture, the evaluation of large spending programs will require more detailed evaluation than the use of simple indicators, to ascertain their effectiveness and efficiency.

97. **Performance indicators do not have clear relationships with program objectives.** The Strategic Plan clearly spells out objectives for the individual programs, and also specifies performance indicators. However, the performance indicators often have no clear relationship to the stated objectives and focus on production rather than achieving efficiency and competitiveness within the world market.

98. **The details of how performance agreements will be monitored and reported need to be developed.** As set down in these agreements, underperformance would be addressed through a process of dialogue between the parties. The outcomes of these arrangements should be monitored to assess whether they are an adequate basis for the implementation of budget plans. Twice yearly reporting and monitoring of Strategic Plans is supposed to take place, but detailed guidelines as to how this reporting should be carried out are not in place.

99. **A major weakness in the budget execution system at the moment is the lack of economic evaluation of the performance and efficiency of major spending programs.** The weakness in ex-post evaluation of the budget is the counterpart of the weakness in policy and economic analysis at the formulation stage of the budget. The evaluation that is available from the current system refers almost exclusively to rates of expenditure, not to efficiency of expenditure, nor to the higher level impacts on the economy and people’s livelihoods. Spending programs, for example those relating to

large infrastructure such as for irrigation and drainage, are subject to feasibility studies and economic analysis at the preparatory stage. They should also be subject to ex-post evaluation. Subsidy and credit programs are subject, neither to detailed feasibility studies, ex-ante evaluation, nor to ex-post evaluation, which would provide critical feedback into the planning of new spending programs.

V. Policy Options

100. A number of key adjustments to the government's existing program of budget management reform and agricultural sector reform could rapidly improve the effectiveness and efficiency of the public spending program, and help to achieve the government's vision of a vibrant and competitive agricultural sector. These include: a) adjustments to strategy formulation, budget execution and performance monitoring systems, which can be implemented soon and; b) adjustments to the spending program, including a number of options for reforming the subsidy program, some involving rapid reform and others a more gradual approach. Specific recommendations and policy options from each of the key sections of the study are described below.

A. Budget Management

Spending Program Formulation

101. Recommendation 1: Restructure the large number of agricultural programs (currently 79) into 8-10 functional categories. The following set of program areas could be considered:

- Administration, Planning and Management
- Crop and Livestock Services
- Infrastructure
- Research and Extension
- Market Support
- Input and production subsidies
- Agricultural and microcredit

102. Recommendation 2: Conduct more ex-ante and ex-post socio-economic and environmental analysis of program results as a foundation for budget formulation: Build capacity within the MOA and solicit consultancy services from an independent organisation for the analysis of budget programs and their efficiency in achieving the Government's strategic objectives for the sector. Link this new function to the introduction of the central evaluation system under consideration for MEBP. Use the analysis to provide a basis for the annual reformulation of the Strategic Plan and budget.

Execution, Performance Monitoring and Result Framework

103. Recommendation 3: Review the costs and benefits of the current system of controls to strike an effective balance between compliance and flexibility in relation to the implementation of development programs. Proposals made in the World Bank Country Portfolio Performance Review FY 2008 provide some useful pointers:

- Delink preparation of investment projects from the annual budget cycle (this is being addressed in the shift to three-year budgeting);
- Relax budget implementation procedures preventing reallocation of funds between the time periods and categories of expenditure;
- Streamline Treasury procedures for contract registration and payments;
- Rationalize multiple inter-ministerial reconciliations of project documents which account for 7-10 months of project effectiveness delay;
- Streamline functional responsibilities of central ministries to rule out duplication of functions and excessive control over procurement and disbursement during project implementation.

104. Recommendation 4: Clarify the role of the Internal Control Unit in MOA. Further build the capacity of the Internal Control Unit as a source of effective internal audit, particularly in relation to the major spending programs of the Ministry.

105. Recommendation 5: Review the results framework at both the strategic and program levels with a view to dramatically reducing the number of indicators.

106. *At the sector level*, indicators should measure the overall progress of the sector and its structural changes in the sector. Sector-wide indicators are typically designed to capture information on economic and social parameters.

107. *At the program level*, the main step would be to identify a reduced number of indicators for each of the eight to ten functional areas. A format for a program description and performance framework might show:

- the program;
- the departments and agencies involved in its implementation;
- the related strategic objective of the program;
- outputs targets divided between quantity, quality and efficiency targets;
- the key investments and activities that are expected to lead to the realisation of the planned outputs, and their rationale; and
- the budget for the departments involved in the implementation of the programme.

108. Recommendation 6: Conduct more ex-ante socio-economic and environmental analysis of programs as discussed under recommendation 5.

B. Strategy and Programs

Strategy

109. Recommendation 7: Situation Analysis: The situation analysis needs to be more holistic encompassing technical, economic, social and environmental analyses and identifying the key challenges in the sector. A good set of policies and programs for the sector can only be put in place when they are based on a clear analysis and understanding of the dynamics of the sector. Assistance should be requested from a reputable economic research or academic institution in Kazakhstan to help put a stronger situation analysis in place.

110. Recommendation 8: Strategic Directions: Re-examine the strategic sub-direction - *food security* - in the Strategic Plan and redefine the performance indicators for this to reflect *the ability of households to pay for food at household level* - rather than the current definition - *a low level of import dependence*. For example, the indicator may be “*percentage of households spending more than 70% of their income on food*” which could be measured through annual poverty surveys.

111. The ability of poor households to pay for food can best be addressed through social safety net programs. Social safety net programs can best be dealt with under other strategic plans dealing with poverty alleviation in urban and rural areas, rather than under the Strategic Plan for the agricultural sector.

112. The ability of poor rural households (which include small farmers) to pay for food can also be addressed through programs to increase the competitiveness of small farms. These programs can be included under the Strategic Sub-Direction on food security in the Strategic Plan.

113. Recommendation 9: Strategic Goals: Ensure linkage between strategic directions, goals and tasks. Specifically, having indicated WTO accession as Strategic Direction, specific goals and tasks should be indicated in the Strategic Plan to demonstrate how this will be achieved.

Effectiveness and Economic Efficiency of Programs

Assess the economic effectiveness and efficiency of the spending programs; implement phased reform of the subsidy programs; reallocate funding to essential public infrastructure and; implement complementary reform in the land and credit markets.

114. Recommendation 10: Re-examine the rationale for each of the programs by considering:

- i) Does the program contribute to the government's strategic objectives and if so how?
- ii) Does the economic analysis demonstrate that economic benefits will be greater than economic costs? If not, is there a strong social or environmental justification for the program?
- iii) Does the program promote permanent structural changes and technological improvements within the sector and a move towards more efficient production?
- iv) Does the program provide an essential public good which will not be provided by the private sector or does the program help to overcome a market failure and promote provision of services by the private sector in the long term?
- v) Does the program reduce income disparity or at least not exacerbate it?
- vi) Does the program conform to WTO accession requirements?
- vii) How easy will it be to collect accurate information to administer the program and what will it cost?

115. Recommendation 11: Policy Options for the Reform of Programs:

- i) *Subsidy Programs:* There are several policy options for reforming the subsidy programs. The selection of the preferred option will depend on how fast the government believes the sector could adjust to the proposed reformed policies (i.e. how quickly farmers would be able to change their production practises in response to input and output prices after reform of the subsidy programs) and what speed of reform is acceptable from a social and political perspective. The options are:
 - *Option 1 Maintain the current subsidy programs but shift some spending from those subsidies which distort production decisions the most, to those which distort production decisions the least.* This implies a shifting some spending from crop area payments and production subsidies to input subsidies. This can be implemented soon. These would be relatively shallow reforms.
 - *Option 2: Decouple subsidies from the production of specific crops.* This means eliminating differences in the level of area payments for different crops – this can be implemented soon and would be an important steps towards deeper reform of the subsidy program.
 - *Option 3 Decouple subsidies from agricultural production completely drawing on lessons from EU experience (see annex 2).* This means a shift from area and production subsidies to some form of income support for farmers not linked to production. This could be implemented in a gradual phased manner over the next 5 or more years to allow producers to adapt to the new conditions. In the longer term, as those who stay in the sector become more efficient and those who leave the sector find alternative employment, it might be feasible to reduce income support. *Decoupling should also aim*

to bring amber box measures gradually down to a level compatible with WTO accession.
This would be the deepest and most comprehensive form of long term reform.

The important reform of the subsidy programs should be accompanied by a number of other fundamental reforms described below.

- ii) *Public Services and Infrastructure: Reallocate any savings on subsidy programs to essential public services and infrastructure including:* sanitary and phyto-sanitary control, veterinary services and disease control, in line with the requirements of WTO; investment in research and extension, which is unlikely to be fully provided by the private sector in the medium term; and investment in essential rural infrastructure, such as drainage and irrigation rehabilitation and the institutions responsible for its management. These changes could be implemented soon – even a reallocation of a small amount of funds to these services could yield high returns to the economy.
- iii) *Land Market: Create a more flexible land market* - this will be important to allow the more competitive producers who are able to compete, to expand, and to allow uncompetitive farmers to move out of the sector by sub-leasing or selling their land.
- iv) *Credit Market: Improve credit provision to allow farms to finance their expansion.* This could be achieved by encouraging competitive private sector lending to agriculture. In the long term, this would reduce the costs of credit provision to the economy and reduce the burden on the budget. It is recommended to examine the design of current credit programs and ensure that they promote rather than crowd out private sector provision of credit and lease finance to the sector. Specific reform options include:
 - *In the short term, transfer* the administration of government state credit programs to private financial institutions. Initially, the private financial institutions may simply administer the programs on behalf of the government and in the medium term be engaged under a risk sharing agreement, with government involvement phased out in the long term.
 - *In the longer term, gradually reduce the state provision of lease finance and credit as provision from private financial institutions increases.* In the meantime, invest further in measures to reduce risk to private financial institutions and borrowers, such as the warehouse receipt scheme, agricultural insurance and reinsurance and the training of private financial institutions in management of agricultural loans.

Annex 1 Key GDP, Employment, and Budget Data

	2001	2002	2003	2004	2005	2006	2007	2008
GDP								
Total GDP (billions of tenge in current prices)	3,251	3,776	4,612	5,870	7,591	10,214	12,850	15,937
Ag. GDP (billions of tenge in current prices)	284	302	363	418	483	561	727	842
Total GDP (billions of tenge in constant prices of 2001)	3,251	3,569	3,901	4,276	4,690	5,192	5,654	5,841
Ag. GDP (billions of tenge in constant prices of 2001)	284	293	299	299	320	339	369	349
Total GDP (real percent growth)	13.5	9.8	9.3	9.6	9.7	10.7	8.9	3.3
Ag. GDP (real percent growth)	17.1	3.2	2.2	-0.1	7.1	6.0	8.9	-5.5
Employment								
Total employment (thousand people)	6,699	6,709	6,985	7,182	7,261	7,403	7,631	7,857
Ag. employment (thousand people)	2,379	2,380	2,463	2,406	2,353	2,335	2,383	2,370
Ag. GDP per Employee (tenge in constant prices of 2001)	119,193	122,966	121,466	124,203	136,012	145,302	155,044	147,323
Total GDP per Employee (tenge in constant prices of 2001)	485,250	532,002	558,478	595,340	645,964	701,315	740,952	743,379
Proxy for Income Inequity								
[a] Share of Ag. GDP in total GDP (percent)	8.72	8.00	7.86	7.12	6.37	5.50	5.66	5.28
[b] Share of Ag. employment in total employment (percent)	35.52	35.48	35.25	33.50	32.41	31.54	31.22	30.16
[c] Coefficient: Share of Ag. GDP in total GDP/Share of Ag. employment in total employment	0.25	0.23	0.22	0.21	0.20	0.17	0.18	0.18
[d] Percent change in [c] coefficient (+ means an increase in inequity)		8%	1%	5%	8%	11%	-4%	3%
MOA Budget								
MOA Budget (billions of tenge in current prices)	26.3	33.4	51.0	68.2	80.5	91.0	111.2	138.6
CPI (%)	8.4	5.8	6.4	6.9	7.6	8.6	10.8	17.1
Index (2001=100)	100.0	105.8	112.7	120.4	129.5	140.7	155.8	182.5
MOA Budget (billions of tenge in constant prices of 2001)	26.3	31.5	45.3	56.7	62.2	64.7	71.4	75.9
MOA Budget as % of GDP (in constant prices of 2001)	0.81%	0.88%	1.16%	1.33%	1.33%	1.25%	1.26%	1.30%
MOA budget as % of Ag. GDP (in constant prices of 2001)	9.28%	10.77%	15.13%	18.96%	19.42%	19.07%	19.32%	21.74%
Annual growth in MOA budget (in constant prices of 2001)		20%	44%	25%	10%	4%	10%	6%
Annual growth in MOA budget (in current prices)		27%	53%	34%	18%	13%	22%	25%
Notes:								
The MOA budget includes agriculture, forestry and hunting, fisheries and potable water								
All figures are MOA budgeted figures.								

Annex 2 Reform of the CAP: Decoupling Agricultural Support

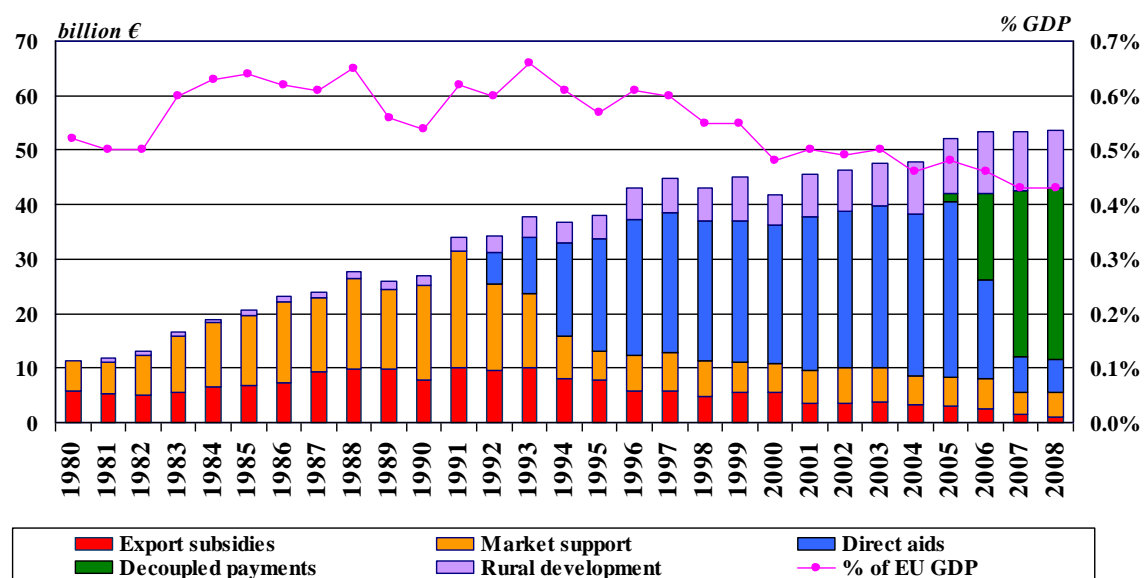
1. The European Union's (EU) Common Agricultural Policy (CAP) has been subject to a series of reforms since 1992 aimed at increasing competitiveness, reducing the costs of the CAP and reducing trade distortions in line with the principles of the WTO. At the same time, reforms have been designed to avoid a dramatic decline in farm incomes, promote rural development and encourage environmentally sustainable farming. The reform process has been long and complex because of the diverse political and economic interests of member countries, not least, the new member states, whose farm incomes are considerably lower than the EU 15 countries. Substantial progress has been made in a series of reform programs (primarily, the Mc Sharry Reforms 1992, the Agenda 2000 Reforms, and the 2003 Fischler Reforms, Health Check Reforms 2008) but further reforms are expected in the run up to the forthcoming 2013-20 programming period.

2. The CAP provides support to farmers under two main pillars: Pillar 1 - Agricultural Market and Income Support and Pillar 2 - Rural Development. Under Pillar 1, a central theme of the ongoing reforms has been the decoupling of subsidies from production. The purpose of decoupling is to ensure that production decisions are driven by the needs of the market rather than by subsidy policies, to encourage structural change within the sector and to phase out amber box measures, which are not in compliance with WTO requirements. A policy is *fully* decoupled if *"it does not influence production decisions of farmers receiving payments, and if it permits free market determination of prices"* (OECD, 2000¹⁴). In order to ensure that farmer were able to adjust to the reduced price support, CAP Pillar 1 funding was shifted, initially from price support to area based payments and later to direct income support via Single *Farm* Payments (currently, the 2004 and 2007 accession countries continue to apply Single *Area* Payments). In order to protect farm incomes, single farm payments are linked to levels of support received in 2000-2002, although they may be phased out in the longer term. CAP spending is increasingly being shifted to a wide variety of (decoupled) investment support programs under CAP Pillar 2, comprising investments to increase competitiveness, environmentally sustainable farming and diversification, including investments based on local development plans. Therefore, while the overall level of support to agriculture in the EU has increased, the nature of support has changed considerably (Figure 1).

3. Kazakhstan faces similar challenges but in a much less complex political environment. The decoupling of support in Kazakhstan also needs to be implemented in a gradual and phased manner, so that farmers have time to adjust but the Government of Kazakhstan has the opportunity to draw on lessons from the EU's and implement reforms in a much shorter period.

¹⁴ Organization for Economic Co-operation and Development, Directorate General for Food, Agriculture and Fisheries (2000) Decoupling: A conceptual overview. Paris: OECD.

Figure 13 CAP expenditure and CAP reform path



Source: http://www.notre-europe.eu/fileadmin/IMG/pdf/Tassos_HANIOTIS.ppt

Annex 3 Comparisons of Nominal Rates of Assistance in Selected Countries

1. The total Nominal Rates of Assistance (NRA) to the farm sector is a measure of the net taxation of the farm sector based on a comparison of farm gate prices and border prices. An attempt at estimating the NRA in the farm sector is described in the publication, "Distortions to Agricultural Incentives in Europe's Transition Economies", World Bank, 2008. The NRA calculation incorporates explicit taxes and subsidies and trade measures as well as implicit taxes on farms resulting from high transport and marketing costs. The publication recognizes the significant methodological difficulties in estimating the NRA on wheat because of the difficulty in choosing a single reference price for wheat, when in practice a great variety of qualities of wheat are produced. The paper emphasizes that although there have been significant subsidies to the agricultural sector these are outweighed by high marketing and transport costs, due to poor marketing infrastructure which erodes the price paid at the farm gate. The paper estimates that overall the NRA the sector consistently increased between 2000 and 2004. Given the trend of increasing explicit subsidization of the sector after 2004, it is likely that the NRA to the sector continues to increase today, which is consistent with the government's policy statements. Table 11 and Figure 14 illustrate that in 2004 the NRA's for Kazakhstan were much higher than in Ukraine where there was a net taxation of farmers but less than in Russia where there was a net subsidization of farmers.

Table 11 Estimated rates of nominal rates of assistance for major agricultural products (percent)

Kazakhstan	2000	2001	2002	2003	2004	2005
Crop	-4	-16	0	-1	-17	na
Livestock	-15	8	10	22	31	na
All Agricultural Products	-10	-5	5	10	8	na
Russian						
All Agricultural Products	0	13	16	11	22	17
Importables	2	27	43	23	32	26
Exportables	-22	-14	-29	-16	0	-4
Ukraine						
All Agricultural Products	-20	-3.8	-13.8	-11.4	-14.3	3.8
Importables	-27.3	34.6	64.1	4	43.4	86.6
Exportables	-17.2	-6.7	-18.2	-13.9	-17.9	-2.4

Source: *Distortions to Agricultural Incentives in Europe's Transition Economies*, World Bank 2008

Figure 14 Estimated rates of nominal rates of assistance for major agricultural products (percent)

