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Agricultural policies in Kazakhstan

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DISCUSSION PAPER

Leibniz Institute of Agricultural Development in Transition Economies

Agricultural policies in Kazakhstan

Martin Petrick, Richard Pomfret

DISCUSSION PAPER NO. 155
2016



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ABSTRACT

Agriculture plays an important part in Kazakhstan's self-image, and continues to be a significant economic sector, employing about a third of the workforce. In the two decades since independence, agriculture has experienced dramatic swings in performance and in public policy. During the 1990s the sector suffered from external shocks, reduced public support and inchoate land tenure reform, while providing a safety net for families suffering from the transitional recession. Since the turn of the century, the booming economy has seen rural-urban migration and substantial public funds devoted to the agricultural sector. This article illustrates the steps taken to consolidate and improve Kazakhstan's position as a major agricultural producer and exporter, while also highlighting the shortcomings of current policies. It places Kazakhstan's agricultural policy evolution in the broader context of political independence from the Soviet Union and the general course of economic reforms. We highlight the driving forces of agricultural policy evolution from a political economy perspective and give an overview of specific policy measures.

JEL: P26, P28, Q15, Q18

Keywords: Agricultural policy, agriculture in transition, political economy, Kazakhstan.

ZUSAMMENFASSUNG

AGRARPOLITIK IN KASACHSTAN

Die Landwirtschaft spielt eine bedeutende Rolle in Kasachstans Selbstverständnis und stellt mit einem Drittel der Beschäftigten einen wichtigen Wirtschaftssektor dar. Seit der Unabhängigkeit erfuhren sowohl der Agrarsektor selbst als auch die Agrarpolitik dramatische Umschwünge. Während der 1990er Jahre litt der Sektor unter externen Schocks, einer verringerten staatlichen Unterstützung und einer unausgegorenen Bodenreform. Gleichzeitig stellte er ein Sicherheitsnetz für die vom Transformationsprozess gebeutelten Familien dar. Nach der Jahrtausendwende führte das starke Wirtschaftswachstum zu ländlicher Abwanderung und einer starken Ausweitung der staatlichen Hilfen für den Agrarsektor. Dieser Beitrag zeigt auf, wie Kasachstan zu einem wichtigen globalen Getreideerzeuger und -exporteur wurde, und macht deutlich, wo die Schwächen der derzeitigen Politik liegen. Er verortet die Entwicklung der kasachischen Agrarpolitik in einem breiteren Kontext der politischen Unabhängigkeit von der Sowjetunion und dem übergreifenden Gang der Wirtschaftsreformen. Die Autoren arbeiten die politökonomischen Triebkräfte dieser Entwicklung heraus und geben einen Überblick über aktuelle politische Maßnahmen.

JEL: P26, P28, Q15, Q18

Schlüsselwörter: Agrarpolitik, Landwirtschaft im Transformationsprozess, politische Ökonomie, Kasachstan.

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1 INTRODUCTION¹

Kazakhstan is the ninth largest country in the world with a land area of 2,724,900 square kilometres, but with a population of 18 million in 2015 it is one of the most sparsely populated (six people per square kilometre). The population is unevenly spread with large areas of arid steppe or desert in the centre and west of the country, and the agricultural regions differ markedly. Crop production is concentrated in the north (wheat in North Kazakhstan, Akmola and Kostanai), east (oil seeds in Pavlodar) and south (cotton in South Kazakhstan), while the centre is host to extensive livestock farming and in the southeast Almaty and East Kazakhstan have mixed farming.

Kazakhstan's economic history since independence in December 1991 divides into a grim decade of transitional recession and a boom era since 1999. Agriculture followed these developments, while also offering an important coping mechanism during the depths of the recession. In the twenty-first century the government has sought to use revenues from the oil-boom for future security, investment in human capital, improved infrastructure and economic diversification. Farming and agri-business have been given an important role, especially in economic diversification.

This chapter illustrates the steps taken to consolidate and improve Kazakhstan's position as a major agricultural producer and exporter, while also highlighting the shortcomings of current policies. The following section places Kazakhstan's agricultural policy evolution in the broader context of political independence from the Soviet Union and the general course of economic reforms. We move on to highlight the driving forces of agricultural policy evolution from a political economy perspective. The penultimate section gives an overview of specific policy measures, while the final section concludes with a summary and outlook on the future reform agenda.

2 THE EMERGENCE AND REFORM OF AGRICULTURAL AND RURAL SUPPORT POLICIES

2.1 Agriculture's role in the Soviet Era

Until the mid-1800s agriculture in the territory of Kazakhstan was traditionally pastoral and nomadic. With increasing Russian control, Slavs settling in the rain-fed lands of the southeast introduced sedentary farming, and some nomads began to plant winter grain. South Kazakhstan became part of the Central Asian cotton economy, although Kazakhstan remains a much smaller cotton producer than its Central Asian neighbors. After the 1917 revolution, the most dramatic change was the enforced collectivization of 1928-9, which was resisted and accompanied by a huge reduction in the number of livestock and by famine.

The second important policy decision in the Soviet era was the Virgin Lands program introduced in the 1950s in northern Kazakhstan (JOSEPHSON et al., 2013). The program brought about 25 million hectares into cultivation (i.e. over 60 % of current arable land), and Kazakhstan became a major producer of wheat and barley. Variable climate led to volatile harvests, and the soils in some of the new lands (about 30 %, according to the WORLD BANK, 1992, vol. 1: 129) were unsuited to long-term cultivation.

¹ This article is a draft chapter of the forthcoming Handbook on International Food and Agricultural Policy Volume I: Policies for Agricultural Markets and Rural Economic Activity, eds. Tom Johnson and Willi Meyers.

In the late Soviet era agriculture was favored by budget subsidies, input support and market support, as well as by subsidies (such as cheap fuel and transport) that were not agriculture-specific. During the final decades of the Soviet era, grain and cotton farmers received favorable relative prices, and a prime aim of Soviet policy was to increase the output of the livestock sector in order to increase living standards through higher consumption of meat and dairy products. Meat output in the Soviet Union increased by 60 % during the 1970s and 1980s, supported by import of feed grains and soybeans from the USA and elsewhere. In the 1980s Kazakhstan exported 300,000 tons of meat per year, 250,000 tons of milk and 150 million eggs to other Soviet republics.

In 1991 just over a quarter of the workforce was formally employed in agriculture, although agricultural output accounted for less than 15 % of GDP. Of 39 million hectares of cultivated land, 65 % was devoted to cereals and 33 % to fodder crops. Although less important in terms of total acreage, rice and cotton were significant crops in the south, and cotton was Kazakhstan's third largest export to non-Soviet markets after mineral fertilizers and coal. Oil crops, regionally important in two eastern regions, supplied 40 % of domestic demand.

2.2 Agricultural reform during the 1990s

In December 1991 the Soviet Union was dissolved. The farm sector, like the economy as a whole, was affected by the disruption of supply chains both for inputs and to markets. In January 1992, Kazakhstan, like other Soviet successor states still using the rouble as a common currency, had to follow Russia's price reform. Price liberalization and trade liberalization changed the incentive structure, and most farmers were operating in undistorted product markets during the second half of the 1990s.

Policy towards agriculture in the 1990s was largely one of neglect. Trade policy was fairly liberal with moderate tariffs on imports and few tariff peaks or non-tariff barriers to trade in agricultural products. OECD producer support estimates for wheat in Russia and Ukraine are highly positive up to 1991, and then fall dramatically in 1992 to around zero or to negative values. A similar picture almost certainly applies to Kazakhstan, as price liberalization removed the benefit of receiving key inputs at below world prices.² During the 1992-4 hyperinflation, farmers' input prices increased by at least twice as much as output prices (DE BROECK and KOSTIAL, 1998). Subsidies for agriculture declined from 10-12 percent of GDP before 1991 to 2-3 percent in 1993, and between 1995 and 1999 subsidies for agriculture were negligible. Some farmers faced locally monopsonistic buyers for their outputs (e.g. cotton gins, dairies, grain merchants or flour mills) and for all producers trade costs were high.

As the decade progressed farm reform and restructuring added to the pressures for change in the agricultural sector. Privatization in principle broke up large farms, but in practice many farms remained essentially unstructured. When farms went bankrupt during the second half of the 1990s, farmers, mechanics and others in the rural economy received land or equipment in lieu of wages. The sector was characterized by continuing power of former state-farm

² OECD (2013) reports positive aggregate PSEs from 1995. For the late 1990s, wheat PSEs were negative, but the aggregate PSEs were dominated by high, but dubious, estimates of market price support for dairy products. Milk production was overwhelmingly on household plots (Figure 1) with fewer than five cows, primarily for home consumption with surpluses sold at local markets. Market price support is the difference between the price received by farmers on domestic sales and a reference price for imported milk, divided by farm income. Farm income and the price received for milk are likely to have been poorly monitored, and the latter hardly comparable with the price of imported milk, which was mainly milk powder.

managers and of local authorities, and by the Soviet-era phenomenon of household plots producing a large share of output, especially of milk and meat and of fruit and vegetables.

Output of all agricultural products fell substantially after 1990. According to World Bank data, the annual growth rate of agricultural value-added between 1990 and 2001 was minus 3.22 percent. Grain production in 1998 was 6.5 million tons compared to 30 million tons in 1992. The trend is difficult to determine due to volatility and generally poor climatic conditions during the 1990s, but average output was almost 50 % lower in 1996-2000 than in 1987-91 (Table 1).

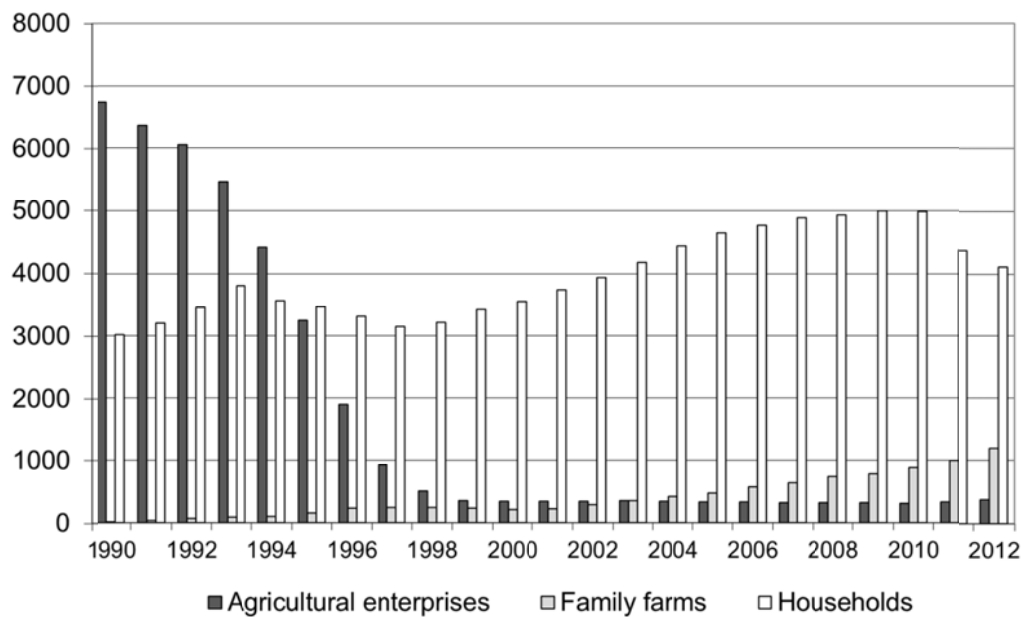
Table 1: Grain and meat production and net exports, 1988-2014, million metric tons

	Grain		Meat	
	Production	Net Export	Production	Net export
1988-91	18.7	3.8	1.1	0.2
1992-95	18.6	5.7	0.9	0.1
1996-2000	10.8	4.2	0.5	(0.0)
2001-05	14.2	4.6	0.5	(0.0)
2006-10	16.6	7.4	0.7	(0.2)
2011-14	18.0	8.4	0.7	(0.2)

Source: USDA PSD database.

Notes: Figures for grain are averages for marketing years (July-June) and for meat of calendar years; grain excludes rice, sorghum and pulses, and meet covers beef, pork, and poultry broilers. Numbers in parentheses are net imports:

Large-scale livestock farming almost disappeared as animal stocks became concentrated on the small household plots, and meat, milk and eggs became essentially non-traded goods. The number of cattle fell from nine million to less than four million (Figure 1). In addition to the disorganization and shift in the relative price of inputs to outputs, this was an adjustment to the policy of the previous two decades that had encouraged meat production and consumption to a level that was far higher than in other countries with similar income levels. The drastic decline in livestock numbers explains the pattern of grain production and trade in Table 1, where output fell dramatically but net exports did not. What was being reduced was the demand for feedstock, which had been met by domestic production or by imports, while output and exports of higher quality grains for human consumption held up much better.

Figure 1: Cattle numbers held by different farm types (thousand heads)

Source: STATISTICAL AGENCY OF THE REPUBLIC OF KAZAKHSTAN.

Despite the dismal output performance of agriculture during the transition of the 1990s, the number of people dependent on farming may have increased. As other parts of the economy collapsed, people returned to their villages or used their country houses (*dachas*) to become self-sufficient. Policymakers were inclined to see the decline of the agricultural sector as a problem, both because they believe that Kazakhstan has a strong comparative advantage in many farm products and also because of social issues associated with a large population with rural connections.

2.3 The tortuous path of land reform

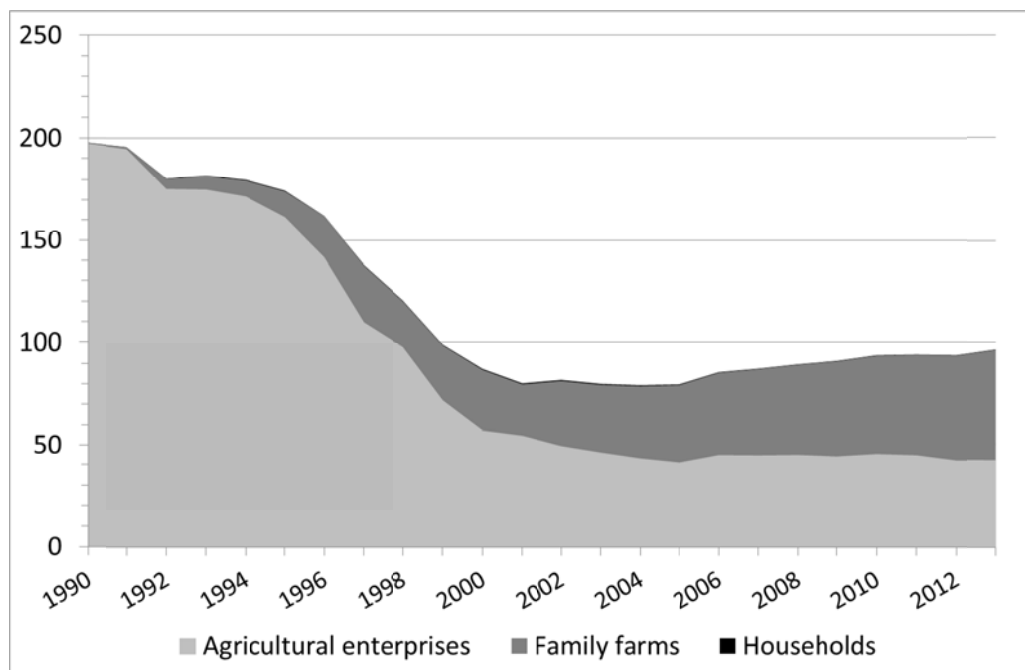
Although economic reforms were sporadic during the 1990s, Kazakhstan had a market-based economy by the end of the decade. After an uncertain start in the 1990s, macroeconomic management has been good since the turn of the century. In the twenty-first century, the European Bank for Reconstruction and Development's transition indicators give Kazakhstan high marks for progress in small-scale privatization, price liberalization and trade and forex system, slightly lower scores for large-scale privatization and competition policy, and low marks on its financial sector, infrastructure, and, especially, enterprise restructuring. The farm sector reflected this aggregate pattern, with a slow and difficult process of land reform.

Initial land reforms in 1991 asserted state-ownership of land and lifetime use rights for farmers. Over the next dozen years, the government was cautious about deciding whether land belonged to the state or whether to embrace private ownership of land, and hesitant about restructuring large agricultural enterprises, equating size with efficiency. The 1995 law "On Land" was based on the principles of state ownership of land with private use rights under 99-year leases. The lands of restructured agricultural enterprises were distributed among workers and pensioners and 2,270,000 shares covering 118 million hectares had been allocated in 1997, but by 2002 less than 30 % of the share-owners had exercised their rights to form individual family farms. A 2001 decree changing the length of leases to 49 years and mixed signals from the state about the desirability of sub-leasing created further confusion about

land rights, until in 2003 a new Land Code finally allowed private ownership with full property rights.

The reform process was slow and sub-sectors remain dominated by large enterprises run by the former state farm managers (grain) and by household plots (meat, milk and eggs). The number of farms increased from 5,000 in 1990 to 172,588 in 2013, of which 7,743 were corporate farms (average size 5,500 hectares) and 164,845 family farms (average size 327 hectares). In 2002 corporate farms accounted for 63 % and family farms 36 % of agricultural land use, but by 2013 the clear majority of land was in family farms (Figure 2).³ There is, however, large variance between the northern wheat-growing regions where family farms accounted for only 30 % of land and southern and south-eastern Kazakhstan where family farms accounted for about 70 % of land use. There is also a correlation with output mix; in 2013 agricultural enterprises produced about three fourths of wheat and barley output while family farms produced 96 % of cotton and 79 % of maize. In particular in the northern grain region, large tracts of land fell out of production because it was no longer profitable to cultivate them under the new market conditions (KRAEMER et al., 2015). The two million household plots produced 83 % of milk, 67 % of meat, 65 % of potatoes, 53 % of fruits and 54 % of vegetables. However, households have lost production shares to family farms recently.

Figure 2: Land use by farm types (million hectares)



Source: STATISTICAL AGENCY OF THE REPUBLIC OF KAZAKHSTAN.

Note: Agricultural land including pastures and fallow for enterprises and family farms; sown area for households.

The slow and at times uncertain reform of land tenure led earlier analysts of farm restructuring to emphasize lack of genuine change, while later analysts see an ongoing and incomplete process.⁴ By the turn of the century there had been a paper reform of agriculture, whose

³ A group of some fifteen very large grain holdings had also emerged by the mid-2000s, e.g. Ivolga-Holding controlled about a million hectares of farmland and owned eleven elevators in Kazakhstan (as well as 140,000 hectares and ten elevators in Russia) and accounted for 500-700 thousand tons of grain exports from Kazakhstan per year (WANDEL, 2009).

⁴ See, for example, GRAY (2000), LERMAN, CSAKI and FEDER (2004), DUDWICK, FOCK and SEDIK (2007), and PETRICK, WANDEL and KARSTEN (2011).

consequences were still being worked out in the context of pervasive farm indebtedness. Restructuring continues, but it is slow in part due to the absence of an active land market in which enterprising farmers can expand by purchasing neighboring property. There is evidence that family farms can successfully compete with agricultural enterprises for land, even in the northern grain region (PETRICK, 2015). However, leaseholders paying a low rent to the state on a 49-year lease are often unwilling to take out the option of private ownership and to consider selling their land.⁵

2.4 Agricultural policy after the turn of the millennium

The turning point in agricultural policy dates from the billion-dollar 2003-5 Agriculture and Food Program (AFP) announced in 2002. The driving force was the oil-boom, which provided revenues for public support, as well as arousing concerns about lack of economic diversification highlighted in President Nursultan Nazarbayev's "Kazakhstan 2030" strategy. The Ministry of Agriculture's budget increased from 26 billion tenge in 2001 to 81 billion tenge in 2005, and its share of the total central budget went from 2.5 percent to 6.5 percent.

The AFP's stated objectives were to ensure food security, establish an efficient agro-industrial system, increase sales of farm products in domestic and foreign markets, and optimize state support for agriculture. The AFP provided general services support to agriculture aimed at improving infrastructure and product quality. Input subsidies (e.g. on fertilizers, fuel and seeds) and price support schemes aimed to stimulate output. Price support was provided through increased funds for the Food Contract Corporation (FCC), which had been established in 1997 and which purchased 1.5 million tons or 20 percent of the grain harvest in 2002, and for a parastatal created in 2001 to provide producer support for the livestock sector.

The livestock sector's situation improved dramatically after 2000 as the government took steps to end neglect of the sector and to reverse the decline in quality that accompanied the disintegration of large production units in the sector. The nominal rate of assistance to livestock producers went from minus 15 % in 2000 to plus 31 % in 2004.⁶ Wheat producers in the early 2000s had negative market price support, i.e. farm-gate prices were below a reference (border) price; the price gap was due mainly to high trade costs, rather than lack of public support. Conditions in the market-based cotton sector are far better than in neighboring Uzbekistan, and trade costs are lower than for wheat farmers due to the more concentrated location of farmers in the south. In sum, the pattern was of increased support, especially to livestock farmers, as agricultural policy became much more favorable for farmers in Kazakhstan between 2000 and 2005.

With growing evidence of a financial market bubble, associated distrust of market mechanisms, and increased economic nationalism in the oil and gas sector, the reaction was to reorganize rather than reform institutions. After the collapse of several large banks, the holding company Samruk-Kazyna was created in October 2008, with affiliates producing over half of GDP. This strategy was mirrored in the agricultural sector in 2007-8 with the consolidation of policy-related institutions, first under the aegis of the Ministry of Agriculture and then under the KazAgro holding company, which had been established in December 2006 to amalgamate seven institutions providing support to agriculture. The Ministry of Agriculture's budget

⁵ Several policy proposals address the problem of unutilized leased land. For example, a tax per hectare of unutilized land would reduce the attractiveness of hanging on to land subject to low rent payments under the 49-year lease. However, it may be difficult to implement such a tax, depending on the definition of "unutilized" and the vigilance of local inspectors.

⁶ Estimates in this paragraph are from POMFRET (2008).

continued to increase, to 139 billion tenge in 2008, of which some 45 % went to KazAgro. In the 2008-9 crisis program, KazAgro received 120 billion tenge. The KazAgro budget is dominated by price support and financing (92 % of the budget in 2011), while a separate entity, KazAgro Innovation, is responsible for promoting technical change.

In sum, the level and composition of Ministry of Agriculture spending changed dramatically after the turn of the century. The share of subsidies increased from 6 % in 2001 to 24 % in 2008 and 39 % in 2009, and the majority of this went to area (i.e. per hectare) subsidies. In the same period, the share of spending on infrastructure fell from 16 % to 5 % and on crop and livestock services from 19 % to 17 %.

In December 2012 President Nazarbayev announced a new long-term strategy, "Kazakhstan 2050", and this was followed in February 2013 by a more specific sectoral program for the development of the agro-Industrial complex over the years 2013-2020. While the goal of the Strategy 2050 is to make Kazakhstan one of the thirty most developed countries in the world by 2050, the single objective of Agribusiness 2020 is to "create the conditions for an enhanced competitiveness" of agribusiness in Kazakhstan. To this end, an overall budget of approximately 3.1 trillion Kazakhstani tenge (KZT) (approx. USD 11.5 billion) was earmarked for spending until 2020.

A customs union was established with Belarus and Russia in 2010, and its successor the Eurasian Economic Union (EEU) came into effect on 1 January 2015, with Russia, Belarus, Kazakhstan and Armenia as members; the Kyrgyz Republic joined in May 2015. The EEU envisages unification of technical regulation among members, including sixteen technical regulations in the agro-food area, common veterinary and phytosanitary requirements, quarantine rules and other measures. After twenty years of negotiations, Kazakhstan became a member of the World Trade Organization (WTO) in July 2015.

2.5 Policy challenges

The current state planning system was adopted in 2009. Agriculture is a priority development area for the decade to 2020, and the Ministry of Agriculture is focusing on eight subsectors (fruit and vegetables, grain, meat, milk, oil crops, poultry, sugar and wool), which have priority over other products such as honey or cotton. Since October 2009 these subsectors have received priority loans from KazAgro, and larger subsidies or lower interest rates on loans/leasing. Regions are responsible for implementation, but central control ensures coherence. Evaluation of policies is primarily in terms of quantitative targets, mostly for output, with little concern for allocative efficiency (could the resources have been better used?) or productivity (could better techniques have been adopted?). Socio-economic and environmental concerns are referred to, but do not appear to have a high priority in practice.

Agricultural policy is almost entirely supply-side oriented. KazAgro Marketing has two main functions: price monitoring (which is also done by the State Statistical Agency) and consulting services that mainly provide advice on how to obtain state support. The FCC buys grain, but does little to help farmers to increase the unit value of their sales by creating international awareness of Kazakhstani quality standards or by improving supply chains. The 2010 customs union with Russia and Belarus reinforced this pattern with, for example, quantitative targets for supply of beef from Kazakhstan to Russia. Wheat producers are restrained by the market power of elevator companies, the vagaries of trading over long distances in an underdeveloped rail and seaport infrastructure, and the intervention activities of the FCC (PETRICK and OSHAKBAEV, 2015). Better transport and storage facilities would make trading and shipping more reliable and financial gains at the farm gate higher.

Domestic beef and dairy chains are currently much less developed than the wheat chain and suffer from atomized production structures with a weak resource base and a fragmented processing and marketing network. There are significant problems in year-round fodder supply for cattle and dairy producers. The large majority of households depend on communal grazing land, where problems of overstocking are prevalent. In winter, they have to rely on fodder purchases mostly from agricultural enterprises. Sales weight of fattened cattle is low in both household and individual farms, as are the daily gains achieved during the fattening period (PETRICK and OSHAKBAEV, 2015). The value chains for beef and dairy are bifurcated into an import-dependent chain for industrially processed products serving urban consumers, and a local chain of raw products serving rural consumers and urban bazaars for fresh meat and dairy products (OECD, 2013).

Some policy goals are poorly articulated or inconsistent. Although reference is made to public good provision, the share of funds devoted to infrastructure has fallen. Food security is defined by a minimum level of domestic supply (80 % for each food product), rather than in terms of households' ability to obtain food (allowing for substitution from goods with increasing prices). WTO accession was delayed by the subsidy policy, under which too many agricultural subsidies failed to meet the WTO criteria for exemption from limits; Kazakhstan unsuccessfully sought full developing country status at the WTO, which would have allowed it to exempt more policies and support, without acknowledging the costs to itself of such subsidies.⁷ In providing subsidized credit KazAgro works with the commercial banks, but by directing credit to specific producers it is crowding out independent commercial loans; because government loans are at pre-determined interest rates, this may be reducing the prospects of financing for riskier but potentially high-return projects.

Implementation is bureaucratic, and policies are poorly coordinated. Farmers complain of difficulty in knowing what support is available and how to obtain it. Even when subsidies or other support are provided they are often delayed, e.g. arriving after the farmer has purchased inputs for sowing and fertilizing, and apparently transparent rules on subsidy scales appear to be discretionary when applied at the local level. In order to increase production of tomatoes, cucumbers, etc. in semi-arid regions, drip irrigation is promoted, but its success depends upon use of high-quality fertilizers, which is discouraged by the subsidies for using domestic fertilizers, which are not of top quality.

Division of responsibilities among government ministries is not accompanied by coordination. The Ministry of Education finances fundamental research, but the Ministry of Agriculture funds applied research. Implementation is largely by regional administrations that can augment schemes with their own funds, leading to regional inequities and cross-regional inefficiencies. To facilitate consolidation of farms in order to realize scale economies, the Ministry of Employment is responsible for providing alternative jobs for self-employed farmers, e.g. by providing microcredit or relocating people from regions with poorer economic prospects. Land improvement is financed by the Ministry of Ecology.

⁷ In the base years 2010-2012 Kazakh provided support above the 8.5 % *de minimis* levels for many agricultural products, much of it from market price support through procurement at administered prices. As a WTO member, current total support will need to be zero, which means no support will be allowed to exceed 8.5 % of the year's value of production. This will require significant policy change, although if administered prices are not raised along with inflation it will be easier to stay within *de minimis* limits. We are grateful to Lars Brink for this information.

3 THE POLITICAL ECONOMY OF KAZAKHSTAN'S AGRICULTURAL POLICY EVOLUTION

Following President Nazarbayev's formula "economy first, then politics", attempts at economic modernization have gained primacy over reforms of political institutions since the turn of the millennium. It is this forced modernization program prescribed by the presidential administration that explains the recent rise of agricultural protection and spending. However, during the first decade of national independence, the priority ranking appeared to be the exact opposite, as the president strived to consolidate his power on the remnants of the centrally planned economy. To better understand the determinants of agricultural policy making in Kazakhstan, it is thus useful to briefly examine the context of state formation after independence.

Since independence, Kazakhstan has been ruled by Nazarbayev, who also held the post of the First Secretary of the Communist Party of Kazakhstan before. Several re-elections without serious competitor culminated in the decision of the parliament, passed in 2007, to grant him lifetime privileges of immunity from criminal prosecution and the right to name a successor (WANDEL, 2009a). In international governance comparisons, Kazakhstan ranks at the lower end of most indicators, including voice and accountability, the rule of law, and corruption control. At the same time, it is praised for its successes in macroeconomic stability, economic growth, poverty reduction, and public management (NELLS, 2014). International observers characterize the political system as a presidential republic with a "benevolent dictator", or an "enlightened authoritarian state" (WANDEL, 2009a: 6).

Given the apparent continuity of political rule, the wide swings in government support to agriculture seem like a puzzle. Why did the political administration neglect agriculture almost completely in the 1990s, whereas it turned to a highly centralized approach of sectoral modernization in the new millennium? In the following, we argue that this evolution can be explained by the specific course of Nazarbayev's power consolidation during the first two decades of political independence, which itself took place against the background of the Soviet socialist heritage.

3.1 The Soviet heritage: Agricultural policy making within a limited access order

The collapse of the Soviet Union released independent Kazakhstan into what NORTH et al. (2009) call a Limited Access Order (LAO). LAOs are political arrangements in which the ruler or the coalition in power *limits the access to opportunities* for other political or economic organizations. The dominant coalition uses the organizations under its own control to create and distribute rents, which, following NORTH et al., ensures that violence within the society is kept in check. This arrangement is typically unstable, as a shock may affect the relative power of the elites and push them into disorder. Alternatively, it may also let the LAO mature towards what NORTH et al. label an Open Access Order (OAO). In OAOs, the legal system encourages the formation of political and economic organizations by any citizen, the perpetuation of these organizations is independent of the elites currently in power, and a civilian government has the monopoly on violence. Already the Soviet Union was a LAO, being controlled by a one-party state in which all significant economic organizations (firms, associations, banks) were linked to the ruling coalition. Independent Kazakhstan inherited most parts of this order, except that the one-party rule based on socialist ideology had imploded. The early independence (or "transition") period thus raised the question of who would fill the void left by the collapse of the previous authority. In this sense, Kazakhstan was similar to many other low- and middle-income countries of the world experiencing a coup or a revolution. We argue that

power reconsolidation after the shock of national independence was the driving force of agricultural policy in the first decade of independence.

However, some characteristics of the Soviet Union distinguish it from other collapsing regimes, and these became particularly relevant for agricultural policy in Kazakhstan's second decade of independence. Compared to LAOs in Africa, most post-Soviet states inherited a *strong bureaucracy*. As the Soviet economy was basically run by the state administration, the Soviet leadership invested huge resources into creating and operating ministries and agencies. While many of them worked quite inefficiently, being a bureaucrat opened access to resources, earned social esteem, and was often linked to privileged education and salary. In addition, after the death of Joseph Stalin, the social contract between the Soviet citizens and its political leadership was characterized by a *modernization promise*. In the eyes of the population, a legitimate government would modernize the economy (measured against the capitalist countries) and thus provide economic welfare in exchange for political loyalty. POHL (2007) documents how this mutual expectation played out during the Virgin Lands campaign in Soviet Kazakhstan. When the failure of the Soviet Union to redeem this promise became apparent in the 1980s, citizens' support to the regime faltered. But as a mental model, the modernization impetus survived in the heads of both citizens and political rulers. Thus, an agricultural modernization drive based on a bureaucratic policy approach became dominant once the fundamental power plays of the first decade were settled.

3.2 Agriculture and the race for assets

During the first decade of independence, agricultural policy was a mirror of collapsing state support, cautious attempts at liberalization, and, above all, served as a frame for the race for assets in the course of privatization. Despite the continuity of personnel in the president's office, the loss of control from Moscow and the unexpected breakdown of the Soviet Union left a power vacuum in the independent state. As analyzed in detail by SCHIEK (2014), a temporary plurality of actors emerged at the national policy level. The international public in the form of the Bretton Woods organizations, International Monetary Fund (IMF) and World Bank, other donors, and foreign advisors entered the scene. During the high time of the Washington Consensus, the international advisors argued in favor of market liberalization and asset privatization. While liberalization materialized partly as an unintended by-product of state withdrawal, privatization rules were implemented only cautiously. After all, state actors had an interest in foggy rules, as they weakened the bargaining power of outsiders and prevented the possible persecution of those who benefited from dubious deals (KALYUZHNOVA, 1998). As noted above, paper shares in farmland were distributed to the rural population, but the true power of action resided with former state farm directors, outside investors from agribusiness, and other members of the rural elite (GRAY, 2000).

Concerning agribusiness firms that were of national importance, KALYUZHNOVA (1998: 77) estimates that the president's office received about 440 million USD for direct sales of tobacco, sugar and oil processors to foreign investors in 1993/94 alone. Following SCHIEK (2014: 138-140), these sales were part of Nazarbayev's strategy of power re-monopolization. It had become necessary as the informal appropriation of assets during the privatization period led to the emergence of new players within and outside the state bureaucracy who threatened the president's power base. By the end of the first decade of independence, when Kazakhstan had repaid its last debts to the IMF, Nazarbayev had succeeded in co-opting competitors, reformers and experts into his ever more powerful presidential administration. SCHIEK (2014: 152-182) provides evidence that this co-optation was maintained by a sophisticated patronage system fuelling a huge network of rent distribution.

3.3 The president's bureaucratic modernization strategy

With a firm political and economic power base in place, it may come as a surprise that Nazarbayev started to engage in a comprehensive modernization and diversification program for the economy by the turn of the millennium. Such "benevolent dictators" are rare because authoritarian rulers seldom have long planning horizons (Nazarbayev was born in 1940), and they always have to fear that their closest allies could turn into threatening rivals and topple them overnight (HABER, 2006: 698). Nevertheless, following the declaration of the "Kazakhstan 2030" program in 1997, the government started to invest significant amounts in the non-oil sectors of the economy, protection levels in agriculture increased notably, and a huge agricultural development bureaucracy was set up, KazAgro, which channeled most of these funds. It is at this point where the specific Soviet heritage and the mental models of the actors involved seem to provide a plausible explanation.

First, the president's own biography displays his deep entrenchment in the Soviet modernization ideology: grown up in a family of settled nomads in Southern Kazakhstan, he studied engineering in Soviet Ukraine, became party secretary in Karaganda, a steel manufacturing region in North Kazakhstan, he wrote his dissertation thesis about how to avoid the waste of natural resources, and was widely considered an expert of the Soviet economy, including its inherent inefficiencies (SCHIEK, 2014: 130). As president, Nazarbayev highlighted agriculture as a sector with barely functioning market relations and widely corrupt management in the "Kazakhstan 2030" document.

Second, Nazarbayev's public speeches are imbued with a narrative of impatient delivery, according to which the population should legitimately expect him to redeem the modernization promise in exchange for wholehearted loyalty. He is known for a political management style that entails clear orders to his subordinates, setting deadlines and demanding action plans (SCHIEK, 2014: 166). In the eyes of the rural population, Nazarbayev already delivered: *after the turmoil of the first years of independence was over, wages in agriculture increased and real consumption spending of rural households doubled, which secured him high approval rates in the countryside* (PETRICK et al., 2013).

Third, in order to secure a reliable stream of rents that would consolidate his political power, the president had to find a way out of Kazakhstan's economic entanglement with Russia that was a result of Soviet central planning. There was little alternative to inviting Western capital and management to the national hydrocarbon sector. Fearing the Dutch disease, other industries that would earn foreign exchange had to be propped up. Under the long-term goal of "Economic growth based on a developed market economy with a high level of foreign investment", "Kazakhstan 2030" mentioned agriculture first on a list of sectors where an "active industrial policy of diversification" was to be pursued.

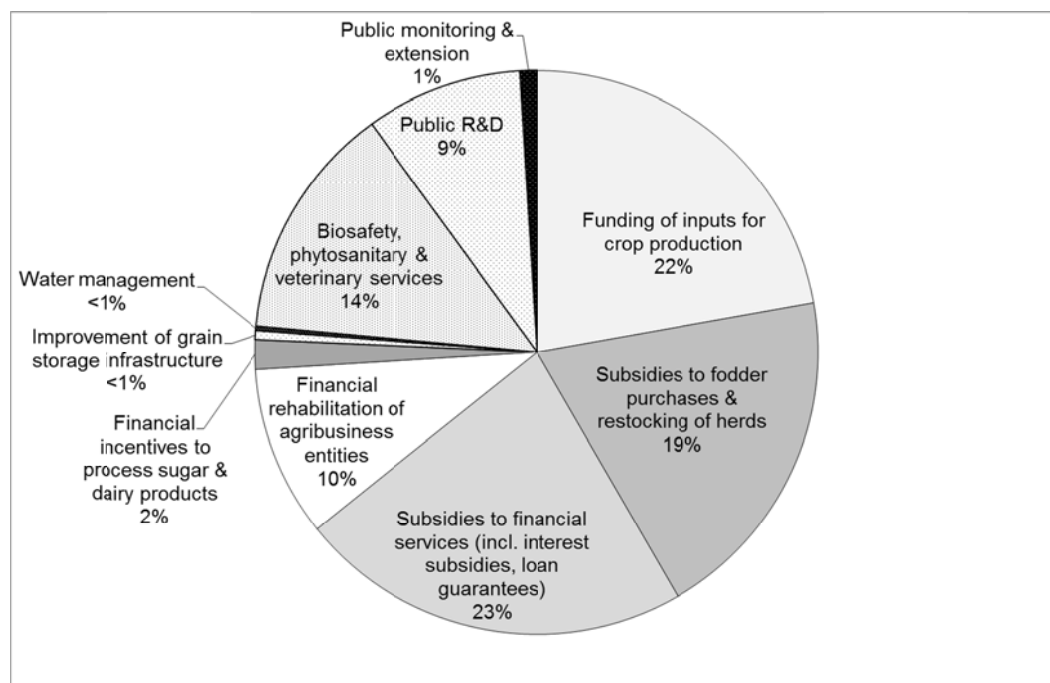
Finally, it seems likely that the highly bureaucratic way of implementing the agricultural modernization package and its focus on capital transfers owed quite a bit to Nazarbayev's socialization in the Soviet planning apparatus. The initial idea to install a group of "30 corporate leaders" was dropped in favor of a structure that consists of only two huge conglomerates, Samruk-Kazyna and KazAgro.

4 INSTRUMENTS, OBJECTIVES AND OUTCOMES OF FARM AND RURAL POLICIES⁸

4.1 Main policy measures

The *Agribusiness 2020* Program maintains the policy aim of boosting agricultural production as part of the strategy to diversify the national economy. The Program's eight-year KZT 3.1 trillion (USD 11.5 billion) budget finances the principal domestic support mechanisms introduced since the turn of the century, and provides measures for the financial rehabilitation of the sector. In addition, activities for the development of phytosanitary and veterinary systems, agrochemical services, land improvement and water management have been strengthened in *Agribusiness 2020*. The principal components of the program are: (1) subsidies and other budgetary support, including concessional credit, (2) financial rehabilitation of the agricultural sector, and (3) enhancement of state regulation. Figure 3 gives a further breakdown according to main types of measures and funding purpose.

Figure 3: Budget priorities of the "Agribusiness 2020"



Source: PETRICK et al., 2014.

Among the main subsidies are per hectare payments for "priority crops", i.e. grains, oilseeds, sugar beet, forage crops, horticultural crops, cotton and potatoes. The rates are differentiated by crop, and increased subsidies are available for producers who apply "advanced technologies". Input subsidies are available for fertilizers and other chemicals, and for seeds; the *Agribusiness 2020* program substantially increased mineral fertilizer and herbicide subsidies, on which spending more than tripled between 2012 and 2014. The government sets price ceilings for diesel fuel sold to agricultural producers, with the total volumes to be supplied at these prices during the sowing and harvesting periods administratively determined. The variations in all of these subsidies offer substantial discretion to regional administrators in terms of levels of support and timing of payment.⁹

⁸ This section draws on OECD (2015b).

⁹ Following Kazakhstan's WTO accession in 2015, the agricultural subsidy system will have to be reformed (see fn. 7 above). However, at the time of writing access to the WTO documents was still restricted, and the precise commitments made by Kazakhstan in the agricultural area were unclear.

Kazakhstan applies a range of border and domestic price policy instruments. Since 2010 border measures have been primarily implemented within the commercial policy of the EEU. Imports face ad valorem, specific and combined tariffs. Kazakhstan also applies tariff rate quotas on meat imports from outside the Commonwealth of Independent States.¹⁰ The major mechanism for domestic price regulation is the Food Contract Corporation's maintenance of state grain reserves (food, feed, and seed grains) for "market stabilisation", with quantities and prices set annually by the government. Since 2002, the FCC also undertakes commercial grain trading, and is the price leader in the domestic grain market.

Agricultural enterprises and individual farms enjoy special tax regimes. Until 2015, they benefited from a 70 % discount on six taxes: land tax, property tax, social tax, VAT, enterprise income tax, and tax on vehicles. After 2015 agricultural enterprises no longer receive the 70 % discount on land tax and incur a five-fold increase in land tax rates, with local authorities given discretion in implementing a higher land tax increase on agricultural land that remained uncultivated.¹¹ Individual farms are after 2015 subject to a Single Land Tax set as a percentage of the cadastral value of land owned or used, which replaces the previous six taxes and represents a 50 % increase. There is a 3,500 hectare farm-size limit for individual farm eligibility, and individual farms are now also subject to a cap on the exemption from enterprise income tax; individual farms, whose annual income exceeds KZT 150 million, will pay the general 10 % tax rate for agricultural taxpayers.

4.2 Agricultural credit

Concessional credit is granted both for short-term and investment loans. Since 2009, the resources underpinning the concessional credit were substantially reoriented towards state-supported investment projects, largely focussed on the livestock sector. Loans are provided at reduced fixed interest rates by several credit agencies under the umbrella of KazAgro. Interest subsidies are also provided on loans from private banks, and their scope was widened in 2013. Primary producers also benefit from concessional leasing of machinery, which is additionally exempt from VAT. Three new credit programs launched in 2014 provide concessional loans for small and medium-size producers for the purchase of sheep, the development of horse breeding, and the construction of water networks for pastures.

The debt situation of the agro-food sector deteriorated as a result of the 2008-09 financial crisis and other factors. By January 2012 bad and sub-standard loans represented 42 % of KazAgro's total portfolio and over half of the commercial banks' agricultural credit portfolios. A restructuring of agricultural loans began in 2013. Overdue loans were prolonged for up to nine years. The interest rate on restructured loans for final borrowers will be approximately 14 % per annum on average, which roughly corresponds to the market rate, but borrowers are eligible for interest rate subsidies that effectively bring debt service costs to around 7 % per annum. By the beginning of 2015, 292 agro-businesses had been covered by the restructuring, with the amount of debt subject to restructuring reaching nearly KZT 313 billion (USD 1.2 billion). A write-off of fines and penalties on overdue loans amounted to KZT 2.9 billion (USD 10.7 million). The vast majority of debtors were specialised in crop production, although the debt restructuring also involved livestock-specialised producers, food processors and other agribusinesses.

¹⁰ The quantities are allocated by the EEU. For 2015, the volumes allocated to Kazakhstan were 20 tonnes of fresh or chilled beef (HS 0201), 10,000 tonnes of frozen beef (HS 0202), 9,700 tonnes of fresh, chilled or frozen pork (HS 0203), and 110,000 tonnes of poultry (HS 0207).

¹¹ Low land taxes were viewed as an impediment to re-allocation of agricultural lands to more efficient users and the reason why some agricultural lands remained uncultivated.

Along with the financial relief package, changes were introduced in the mechanisms of concessional credit, with the aim of increasing the incentives for commercial banks to engage with agriculture. Starting from 2013, part of the funds previously allocated to KazAgro's credit agencies were re-directed to provision of interest subsidies on loans taken from other credit institutions, breaking the privileged access of KazAgro's credit agencies to budgetary funding. Re-direction of budgetary funds to subsidise interest on credit from private lenders may increase the total volume of credit offered to agricultural borrowers on concessional terms; previously, interest rate subsidies were relatively small and provided only on loans taken by agricultural processors, but now primary agricultural borrowers are also eligible for this support.

Starting in 2014 investment subsidies for new operations or the expansion of existing operations were provided for eighteen "priority sectors". In 2014, these subsidies covered 1,087 investment projects, with the largest part of funds going to projects for development of irrigation networks and livestock farming.

4.3 Further areas of agricultural policy action

The government views the dominant role of households in production of meat, milk, potatoes and vegetables as a structural handicap. Per tonne subsidies for meat are provided only to large commercial livestock producers. In December 2014 a Draft Law on Agricultural Cooperatives was submitted to parliament with the aim of facilitating creation of larger producer units; despite advice to see cooperatives as vehicles for farmers to improve conditions beyond the farm-gate (OECD, 2015a), the draft law reflected a more Soviet mindset of realizing scale economies in production on the farm.

In 2013, a regional specialization scheme for Kazakhstan was prepared. The scheme recommends the types of agricultural production for each region based on climatic conditions, economic factors, proximity of markets, and availability of infrastructure. It is intended to provide producers with incentives to follow the recommended types of agricultural production by making support payments and access to concessional credit conditional on compliance with the regional specialization scheme. This is to be implemented in stages and by 2020 beneficiaries are to be eligible for assistance if they fully comply with the regional specialization scheme.

Several infrastructure projects may ease constraints to agricultural development in Kazakhstan in general and to agro-food export capacity in particular. A national program for development of transport infrastructure, "Nurly Zhol", foresees expansion of the railway network to facilitate, among other components, access to the Persian Gulf region. A Grain Storage Project in the Kostanai region, one of the key grain producing areas, is constructing a processing and storage complex for about 50,000 tonnes of grain per year. A seven-year USD 343 million Irrigation and Drainage Improvement Project begun in 2015 with World Bank co-financing succeeded a 1996-2004 project aimed at improving irrigation and drainage service delivery in the four most densely populated regions of South Kazakhstan.

As a measure to attract foreign investment into agriculture, the term during which agricultural land can be used by foreign entities was increased in 2015 from 10 to 25 years.

Kazakhstan's policies also focus on support to the food-processing sector. Along with agricultural producers, food processors benefit from concessional credit and leasing of machinery and equipment from credit agencies of KazAgro. Subsidized interest rates and leasing fees are also available when loans or leasing are provided by commercial companies. Another form

of support is the provision of subsidised credit for investment projects related to food processing and the grain infrastructure.

There is no independent framework for supporting rural development. This goal is rather implicit in various infrastructure programs that are partly funded by regional authorities, aiming at improvements of water and electricity supply, heating infrastructure, transport, as well as health and education facilities.

5 CONCLUSIONS

Agriculture plays an important part in Kazakhstan's self-image, and continues to be a significant economic sector, employing about a third of the workforce. In the two decades since independence, agriculture has experienced dramatic swings in performance and in public policy. During the 1990s the sector suffered from external shocks, reduced public support and inchoate land tenure reform, while providing a safety net for families suffering from the transitional recession. Since the turn of the century, the booming economy has seen rural-urban migration and substantial public funds devoted to the agricultural sector.

In the twenty-first century agricultural performance improved substantially and tenure arrangements are becoming more transparent. However, the reform process remains incomplete. The path to land reform has left a legacy of weak land markets and difficulty in using land as collateral. The institutional arrangements are inadequate for coherent agricultural and rural development. While farm output has increased, interventionist policies and distrust of market mechanisms lead to resource misallocation and hamper productivity growth. In times of plenty, resource misallocation can seem a minor problem, but if a goal of diversification is to make the non-oil sector more resilient, then inefficient policies that promote an output mix determined by officials will not succeed in achieving the goal.

In his "Kazakhstan 2050" strategy, President Nazarbayev expressed a firm commitment towards improving the competitiveness of the economy by an ambitious and comprehensive modernization and innovation program. With regard to agriculture, this is clearly visible in the "Agribusiness 2020" document, in which a hitherto unprecedented budget volume was earmarked for boosting the productivity of the sector. The government seems determined to upgrade crop and livestock production to the technological frontier, thus to make a clear step beyond existing production systems, rather than to just preserve them. Even so, the key problem with this agenda is that successful agribusiness entrepreneurs, who detect business opportunities, create value and put the country's resources to productive use, require more or even something else than just cheap access to inputs and capital. They need the freedom to discover and seize the business opportunities they perceive to be profitable in their given local environment. If the government makes costly and long-term financial commitments towards specific activities the entrepreneurs are expected to perform, these commitments may turn out to be misguided given the specific circumstances of businesses. Furthermore, they may crowd out private initiative to provide the necessary resources in an economically more sustainable way (PETRICK et al., 2014).

Kazakhstan's mode of agricultural policy making still seems to owe a lot to the mental models prevalent during the Soviet period. Many decision makers in Kazakhstan are aware of these difficulties, in particular at the highest level of government. To what extent a comprehensive modernization of the agricultural sector is possible without devolution of political power and thorough administrative reforms remains to be seen. A feature of policymaking in Kazakhstan

has been the government's flexibility in learning and adapting policies. This will be tested in the future evolution of its agricultural policies.

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REFERENCES

- DE BROECK, M., KOSTIAL, K. (1998): Output Decline in Transition: The Case of Kazakhstan, *IMF Working Paper WP/98/45*, International Monetary Fund, Washington DC.
- DUDWICK, N., FOCK, K., SEDIK, D. (2007): Land Reform and Farm Restructuring in Transition Countries: The experience of Bulgaria, Moldova, Azerbaijan, and Kazakhstan, *The World Bank Working Paper # 104*, World Bank, Washington DC.
- GRAY, J. (2000): Kazakhstan: A Review of Farm Restructuring, *World Bank Technical Paper No.458*, World Bank, Washington DC.
- HABER, ST. (2006): Authoritarian Government. in: WEINGAST, B. R., WITTMAN, D. A. (eds.): *The Oxford Handbook of Political Economy*. Oxford, New York: Oxford University Press (The Oxford handbooks of political science): 693-707.
- JOSEPHSON, P., DRONIN, N., CHERP, A., MNATSAKIANIAN, R., EFREMENKO, D., LARIN, V. (2013): *An Environmental History of Russia*. Cambridge, New York: Cambridge University Press (Studies in environment and history).
- KALYUZHNOVA, Y. (1998): *The Kazakstani Economy. Independence and transition*. New York: St. Martin's Press (University of Reading European and international studies).
- KRAEMER, R., PRISHCHEPOV, A. V., MÜLLER, D., KUEMMERLE, T., RADELOFF, V. C., DARA, A., TEREKHOV, A., FRÜHAUF, M. (2015): Long-term agricultural land-cover change and potential for cropland expansion in the former Virgin Lands area of Kazakhstan, *Environmental Research Letters 10*: 054012.
- LERMAN, Z., CSAKI, C., FEDER, G. (2004): *Agriculture in Transition: Land policies and evolving farm structures in post-Soviet economies* (Lexington Books: Lanham MD).
- LIEFERT, W., LIEFERT, O. (2012): Russian Agriculture during Transition: Performance, global impact, and output, *Applied Economic Perspectives and Policy, 34(1)*: 37-75.
- NELLIS, J. (2014): Institutions for a Modern Society. in: AITZHANOVA, A., KATSU, S., LINN, J. F., YEZHOF, V. (eds.): *Kazakhstan 2050. Toward a modern society for all* (Oxford University Press: New Delhi): 285-310.
- NORTH, D., WALLIS, J. J., WEINGAST, B. (2009): *Violence and Social Orders. A conceptual framework for interpreting recorded human history* (Cambridge University Press: Cambridge, New York).
- OECD (2013): *Review of Agricultural Policies, Kazakhstan 2013* (Organisation for Economic Co-operation and Development: Paris).
- OECD (2015a): *Strengthening Agricultural Co-operatives in Kazakhstan, Private Sector Policy Handbook* (Organisation for Economic Co-operation and Development: Paris).
- OECD (2015b): *Kazakhstan, Chapter 14 of Agricultural Policy Monitoring and Evaluation 2015* (Organisation for Economic Co-operation and Development: Paris).
- PETRICK, M. (2015): Competition for land and labor among individual farms and agricultural enterprises: Evidence from Kazakhstan's grain region. in: KIMHI, A., LERMAN, Z. (eds.): *Agricultural transition in Post-Soviet Europe and Central Asia after 25 years*. Halle (Saale): IAMO (*Studies on the agricultural and food sector in transition economies, 79*): 117-139.
- PETRICK, M., GRAMZOW, A., OSHAKBAEV, D., WANDEL, J. (2014): A policy agenda for agricultural development in Kazakhstan. *IAMO Policy Brief 15*.
<http://www.iamo.de/fileadmin/documents/IAMOPolicyBrief15_en.pdf>.
- PETRICK, M., OSHAKBAEV, D. (2015): Kazakhstan's Agricultural Development Constraints: Evidence from the Wheat, Beef and Dairy Sectors. in: SCHMITZ, A., MEYERS, W. H. (eds.): *Transition to Agricultural Market Economies. The future of Kazakhstan, Russia, and Ukraine* (CABI: Wallingford UK): 15-26.

- PETRICK, M., WANDEL, J., KARSTEN, K. (2011): Farm Restructuring and Agricultural Recovery in Kazakhstan's Grain Region: An update, *IAMO Discussion Paper No.137*, Leibniz Institute of Agricultural Development in Central and Eastern Europe, Halle, Germany.
<<http://www.iamo.de/fileadmin/documents/dp137.pdf>>.
- PETRICK, M., WANDEL, J., KARSTEN, K. (2013): Rediscovering the Virgin Lands: Agricultural investment and rural livelihoods in a Eurasian frontier area. *World Development*, 43: 164-179.
- POHL, M. (2007): The "planet of one hundred languages": Ethnic relations and Soviet identity in the Virgin Lands. in: BREYFOGLE, N. B., SCHRADER, A. M., SUNDERLAND, W. (eds.): Peopling the Russian periphery. Borderland colonization in Eurasian history. London, New York: Routledge (*BASEES/Routledge series on Russian and East European Studies*, 38), 238-261.
- POMFRET, R. (2008): Kazakhstan, in: ANDERSON, K., SWINNEN, J. (eds.): Distortions to Agricultural Incentives in Europe's Transition Economies (World Bank: Washington DC): 219-63.
- SCHIEK, S. (2014): Widersprüchliche Staatsbildung – Kasachstans konservative Modernisierung. Baden-Baden: Nomos (*Demokratie, Sicherheit, Frieden*, 212).
- WANDEL, J. (2009): Agroholdings and Clusters in Kazakhstan's Agro-food Sector, *IAMO Discussion Paper No.126*, Leibniz Institute of Agricultural Development in Central and Eastern Europe, Halle.
<<http://www.iamo.de/fileadmin/documents/dp126.pdf>>.
- WANDEL, J. (2009a): Kazakhstan: Economic Transformation and Autocratic Power. *Mercatus Policy Series Country Brief 4* (Arlington, VA: George Mason University).
- WORLD BANK (1992): Kazakhstan, Country Economic Memorandum, Report No. 10976-KK, vol. I and II, Washington DC: World Bank, November.

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