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Rediscovering the Virgin Lands: Agricultural investment and rural livelihoods in a Eurasian frontier area

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Abstract

Against the global debate on socially responsible agro-investment, we explore the conditions, patterns, and impacts of recent agricultural recovery in Kazakhstan's northern grain provinces. Vertically and horizontally integrated agroholdings brought outside investment and management to this region. With stable employment in agriculture, real consumption spending of rural households has doubled within an eight-year period. Due to the socialist tradition of industrialised farming operations, rural inhabitants regard themselves primarily as workers and not as land owners. We conclude that investment in large-scale farming can provide benefits to rural people even with less than ideal-type political representation.

Keywords: Agricultural investment, land grabbing, farm organisation, rural poverty, Kazakhstan.

JEL-codes: O13; P32; Q12; Q15.

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Abstract

Against the global debate on socially responsible agro-investment, we explore the conditions, patterns, and impacts of recent agricultural recovery in Kazakhstan's northern grain provinces. Vertically and horizontally integrated agroholdings brought outside investment and management to this region. With stable employment in agriculture, real consumption spending of rural households has doubled within an eight-year period. Due to the socialist tradition of industrialised farming operations, rural inhabitants regard themselves primarily as workers and not as land owners. We conclude that investment in large-scale farming can provide benefits to rural people even with less than ideal-type political representation.

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1 Introduction

Recent price hikes in agricultural commodities worldwide brought the issue of global food security back on the political agenda. They also led to a rediscovery of the agricultural sector not only as an essential resource for human wellbeing, but also as a potentially profitable investment target. Claims were made that productivity increases would only be possible if small farms were replaced by large commercial agro-firms (Collier 2008). At the same time, media reports on increasing interest in farmland by both private and public investors triggered a vigorous debate on the social and economic implications of massive agricultural transformations for rural societies (von Braun and Meinzen-Dick 2009; Deininger et al. 2011). For some observers, such "land grabbing" can in no way be reconciled with the human and property rights of the local land users, such as peasants or pastoralists (Borras and Franco 2010). Others argue that it may deliver much-longed-for improvements in rural employment if the process only follows certain rules of conduct. These rules are supposed to guarantee transparency, stakeholder participation, and respect of food security as well as economic and environmental sustainability (FAO/IFAD/UNCTAD/World Bank 2010).

In this article, we investigate a case of agro-investment which, at first glance, resembles many of the reported incidences of "land grabbing" in developing countries: an economically deprived rural population with little employment alternatives outside agriculture, a government that lacks accountability and transparency, an agronomic frontier area with weak property rights in land (the "Virgin Lands"), and the emergence of a small group of powerful investors. Yet, a closer inspection reveals that the case nevertheless runs counter to a number of stereotypes that are being articulated in the global debate. The employment and income figures presented below draw a remarkably positive picture of agricultural recovery that trickles down to the rural society at large.

Due to the socialist tradition of industrialised farming operations in this north Kazakhstan grain area, rural inhabitants tend to regard themselves primarily as workers and not as land owners. Although the authoritarian government has followed an unpredictable agenda of land reform, it successfully minimised overt conflict among land users. Moreover, it has been cautious in embracing investors from abroad. Under these conditions, an unexpected variety of farming types has emerged that allows organisational experimentation: huge agroholdings, individual family farms and tiny household economies are competing for land and labour.

The case analysed here thus contributes a different perspective on the desirability and local perception of large-scale agro-investment. By highlighting the specific local conditions and exploring its organisational and distributional dimensions, we show how such investment can provide benefits to rural people even with less than ideal-type political representation of all stakeholders. The reality studied in this article does not follow neat ideological patterns. Critics of outside engagement in rural areas need to acknowledge that, since the collapse of socialism, many inhabitants have longed for a strong investor who would secure jobs and livelihoods. Even so, these inhabitants could not count on well-organised participatory processes and strong property rights. In this instance, a more or less benevolent dictator ensured the conditions conducive to rising investment levels. A further unorthodox lesson is that there seems to be no clearly superior farm size or type of farm organisation. Both individual and corporate farms increased land use and land productivity over the last ten years, and thus contributed to agricultural recovery. There is also complementarity among the farm types: households provide labour to the bigger farms and receive inputs and services for their garden plot, on top of the regular wage payment.

In the following, we present quantitative and qualitative evidence to buttress these assertions. A first source is expert interviews and case study research conducted by the authors in April/May 2011. The quantitative part of the article draws on regional statistics previously unpublished in English that come from the Kazakh National Statistical Agency. Furthermore, data from representative national household surveys as well as from a farm survey conducted by the World Bank is utilised. Key documents prepared by international organisations on agricultural development in Kazakhstan (in particular Dudwick et al. 2007; Gramzow and Suleimenov 2011; Gray 2000; USAID 2005) as well as newspaper, local magazine and other media sources provided additional important insights. This material including farm case studies is summarised in the appendix to this article and in a more detailed background report (Petrick et al. 2011).

The article is organised as follows. Section 2 reviews the recent debate on global agro-investment and introduces the Eurasian case studied here. Subsequent sections look at different aspects of agro-investment in Kazakhstan: Section 3 focuses on property rights in land, section 4 gives an overview of government policy, section 5 collects evidence on the patterns and sources of recent investment activity, section 6 analyses the emerging farming structures, and section 7 looks at the social impacts. Section 8 concludes.

2 Large-scale agro-investment in post-Soviet Eurasia and the recent “land grabbing” controversy

2.1 Emerging issues in the “land grabbing” dispute

The recent controversy on the desirability of large-scale investments in agriculture emerged after first land deals by food-importing but capital-rich countries in supposedly land abundant developing countries became public (von Braun and Meinzen-Dick 2009; Borras and Franco 2010). Driven by concerns about land and water scarcity constraining food supply within their own boundaries, these investors became active in securing large land tracts abroad in order to produce staple food for their home consumption. In this first round of “land grabbing”, the Gulf States from the Middle East as well as China, South Korea and India were among the main initiators, next to European and US investors (UNCTAD 2009, 123). Prominent target countries were Kenya, the Philippines, Sudan, and Tanzania (von Braun and Meinzen-Dick 2009). This wave of projected agro-investment has led to highly polarised responses within the international development community. Proponents from international donor organisations such as the World Bank see such investments as a potential source of employment creation and infrastructure upgrading in the long-neglected rural areas of the target countries. Critics originating from anti-globalisation groups, third-world movements and peasants’ organisations (for example, “La Via Campesina”) claim that these activities neglected the needs of local land users in the target countries, for example peasants or pastoralists, that they were often negotiated from unequal bargaining positions, and that they went along with opaque political agreements among high-level officials from both parties.¹

In the unfolding debate, analysts have begun to paint a more differentiated picture of the subject. First, it was noted that the social benefit of large-scale agricultural investments in land would be highly dependent on the institutional framework for land ownership and land management existing in the target countries. Customary rather than formal tenure arrangements, weak ownership titles, and absent land registries as prevalent in many African countries were identified as a major source of conflicts (Cotula et al. 2009). However, land owners with more secure property rights and low opportunity costs of land use may welcome outside investors, not the least because they may be farmers by default rather than by choice and as such prefer wage labour over self-employment (Collier and Dercon 2009, 12). *Who* actually was supposed to work on the land and how became a key question in assessing the impacts of investments:

- Some models mostly favoured by Asian investors implied the infusion of workers originating from the investing countries (Cotula et al. 2009). These arrangements are less likely to lead to positive employment effects among the local population in the target countries.
- A recent study by UNCTAD (2009) explored the experience and options of mutually beneficial partnerships among large- and small-scale producers, such as outgrower or contract farming schemes. Under such arrangements, production is executed by smallholders on their own land, who supply to a centralised processing facility run by a vertically integrated food company. Production and processing requires stringent coordination of activities (e.g., due to the perishability of the raw

¹ Much of this controversy is reflected in regular postings on the website <http://farmlandgrab.org/>.

product) and is thus typically subject to strict contractual regulations (UNCTAD 2009, 119). Such smallholder participation may be one way to reconcile the interests of large investors and local land users (Deininger et al. 2011). However, its viability depends on the specific crop and the technological options in planting and processing it, as well as small farmers' access to capital and knowledge (Reardon et al. 2009).

- A number of authors emphasise recent technology developments in plant breeding, tilling and remote sensing as well as tougher certification requirements. These factors are supposed to make large scale and vertically integrated operations more competitive vis-à-vis peasant farms also in primary agricultural production (Collier 2008; Collier and Dercon 2009; Deininger and Byerlee 2012). Such large-scale operations are typically based on wage labour and thus may generate employment in rural areas. If they replace less productive smallholder production systems, they may also serve the overall goal of increasing global food supply.

These points illustrate that there are fundamental economic and social questions under the surface of the highly politicised “land grabbing” debate. The fact that foreign companies invest in developing countries may not be the most important or contentious among these questions. Cotula et al. (2009, 49) pointed out that, even in Africa, domestic rather than foreign investors play a major – if not *the* major – role in recent agro-investment. This insight shifts attention away from the potentially problematic asymmetries and conflicts among nation states towards the relationship between initiators and beneficiaries of investment irrespective of their origin. From an economic point of view, this is a debate about emerging organisational modes of agricultural production and their efficiency and distributional implications. It goes far beyond criticising an allegedly neo-colonialist sell-out of developing countries' land resources.

2.2 *The rise of Eurasian agriculture as an investment target*

Given the economic motives of the investors and the societal interests in expanding global food supply, Visser and Spoor (2011) raised the question why the debate focuses so much on African land resources, if the globally most under-utilised agricultural land is not to be found in a developing country at all. They quote recent data by the United Nation's Food and Agricultural Organisation (FAO) saying that there are only four countries in the world with “significant untapped capacity to make a major impact on meeting the growing global food demand” (p. 300), namely Russia, Ukraine, Kazakhstan, and Argentina. In the first three, the “RUK”-countries, much land highly suitable for grain production fell out of production during the transition crisis of the 1990s, possibly more than 20 million hectares alone in Russia (Ioffe 2005; Visser and Spoor 2011, 307). Remote sensing estimates for Ukraine by Baumann et al. (2011) and for European Russia by Schierhorn et al. (2011) support this claim and imply that, even under conservative scenarios, grain output could increase by a quarter within 20 years.

Table 1 compares a number of indicators of the RUK's agricultural potential with Argentina, Canada, and the USA, countries with suitable agro-ecological conditions for wheat production. In particular Russia and Kazakhstan are both sparsely populated and land rich. Already today, all RUK countries are important wheat exporters. Yet, also according to estimates by Deininger et al. (2011) as reproduced in the table, they still have large, untapped reserves in cropland area suitable for wheat production. Yield levels are still moderate, at least in Russia and Kazakhstan.

While the quality of the prevalent black soil cropland in the region is among the highest in the world, land prices are much lower than elsewhere. According to Atkin (2009), they stood at about 500 euro/ha for Russia in 2008, compared to 1,000 euro/ha in Canada, 4,000 euro/ha in Argentina, and 15,000 euro/ha in Germany. Infrastructure appears well developed, at least compared to many developing countries. It is thus no surprise that agro-investment picked up recently in the RUK countries, after the main turbulences of the transition period culminating in the Russian ruble crisis of 1998 had been curbed. Foreign investors were particularly active in Russia and Ukraine, less so in Kazakhstan (Table 1).

Table 1: Eurasian agricultural potential in comparison

	Russia	Ukraine	Kazakhstan	Argentina	Canada	USA
Population density (persons/km ²) ^a	8.7	79.8	5.8	14.6	3.7	33.3
Area under wheat production (1000 ha) ^b	26,070	7,054	12,906	4,284	10,032	22,542
Potential area suitable for wheat (1000 ha) ^b	35,722	2,430	2,948	6,472	8,639	3,877
Wheat yield (t/ha) ^b	2.45	3.67	0.97	1.97	2.85	3.02
Wheat exports (1000 tons) ^c	18,393	13,037	5,701	6,767	18,876	27,635
Stock of foreign investment in agriculture (million USD) ^d	953.0	557.6	22.1	n.a.	1,497.8	2,561.0

Notes: Wheat exports for marketing year 2008/9, investment stocks for 2007, all other figures for 2008. n.a. = not available. Potential area suitable for wheat is currently nonforested, unprotected and uncultivated with a population density lower than 25 persons/km² (Deininger et al. 2011, 78).

Sources:^a World Development Indicators, ^b Deininger et al. (2011, 169), ^c USDA PSD online database. ^d UNCTAD (2009, 237-8).

Other than in most developing countries, smallholder agriculture is not the default situation in the RUK countries. After the collapse of socialism, the large state and collective farms earmarked for privatisation and restructuring fell into a decade of crisis. During the 1990s, a specific post-socialist agrarian structure emerged which for the most part consisted of incompletely restructured large-scale farms desperately in need of capital infusion and management upgrading (Lerman et al. 2004; Ioffe 2005; Swinnen and Rozelle 2006). Property rights in land and assets were distributed to rural inhabitants in the form of long-term leases, but few of them chose to establish their own farm. Rural livelihoods rather depended to a great extent on subsistence farming on household plots given to rural families already during socialism. It was only in the end of the 1990s that a new type of farm organisation emerged in the RUK countries, the agrohholdings. Two main characteristics are their enormous size covering several ten up to hundred thousand hectares of land plus several stages of production and processing, and the dominance of investors from trade, processing, or energy whose core activity was different from agricultural primary production. Interestingly, most of these were domestic companies trying to exploit the favourable investment conditions noted before (see Rylko et al. 2008, and Wandel 2011 for overviews).

2.3 Farming conditions and post-Soviet investment in the Kazakh frontier area

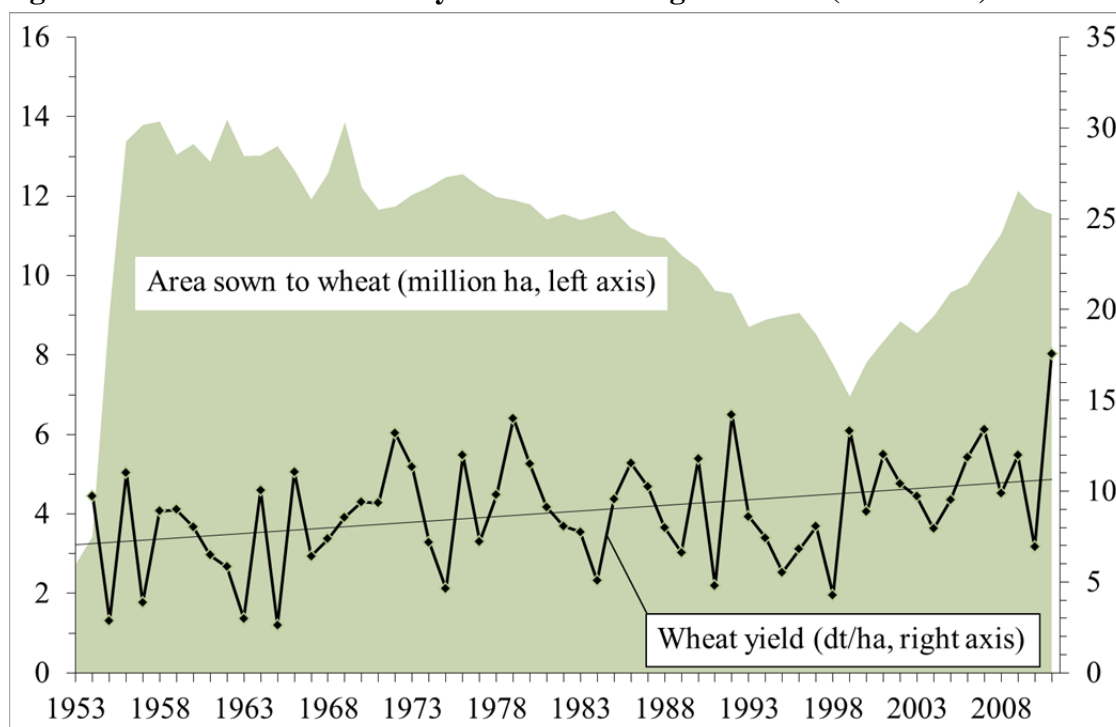
The advent of large-scale crop production in north Kazakhstan is primarily due to a massive Soviet development programme, the “Virgin Lands Campaign”, which followed earlier colonisation by Russians in the 19th century. In the 1950s, unstable yields in existing grain producing regions threatened to make the Soviet Union dependent on imported grain. As a response, in 1954, the Communist Party’s first secretary Nikita Khrushchev ordered a vast expansion of Soviet cropland by ploughing up the uncultivated lands located beyond the lower Volga and north Caucasus and extending into eastern Siberia (McCauley 1976). 492 sovkhoses (state farms) were established until 1963, the average sovkhose covered 25,000 to 30,000 ha of mostly grain area (Wein 1980). Today, this area is represented by the three north-Kazakh provinces Akmola, Kostanay, and North-Kazakhstan, two of which have borders with Russia. In the following, we label these three provinces the North-Kazakh Grain Region (NKGR).²

Figure 1 shows the rapid increase of wheat area in the first years of the campaign. In the beginning, Soviet expectations concerning a reliable increase of national grain supply as a result of the campaign were far too great. According to its geographic and climatic location, north Kazakhstan suffers from highly variable plant growing conditions due to the permanent risk of drought and both late and early frost. Wind erosion frequently attacks the newly cultivated soil. Since adequate production technologies in order to mitigate these adverse impacts were not available or not practised, crop area fluctuated greatly in the 1950s and 60s. Figure 1 also displays annual wheat yields per ha, which have varied substantially up to date. Starting with less than 10 dt/ha in the 1950s, yield levels have been low and have increased only slowly.

In the 1980s, wheat area declined steadily and reached an all-time low during the transition crisis of the 1990s. In 1999, it stood at roughly half the value of the 1950s. However, partly aided by its oil revenues, Kazakhstan managed to avoid the lasting political instability or paralysis typical of other post-Soviet states. In the new millennium, together with rising food prices, political stability enforced by Kazakhstan’s autocratic president Nursultan Nazarbayev went hand in hand with a notable recovery of agricultural production. While the global financial crisis reached Kazakhstan already in 2007, it was weathered comparatively well. Aided by new technologies of moisture conservation, Kazakhstan’s farming sector is now among the world’s ten largest producers and five largest exporters of wheat (OECD 2011, 99). In 2011, an all-time bumper crop of an estimated 21 million tons was harvested (Pala 2011). Today, about 80 percent of Kazakhstan’s wheat is produced in the NKGR.

² During Soviet times, the province of Pavlodar was included in the *tselinnyi krai* (virgin lands administrative region). However, its contribution to domestic grain production remained small, both in the Soviet Union and later in the Republic of Kazakhstan. In 2011, its wheat output was less than 2% of the other three Virgin Lands provinces. Except in Figure 1, we ignore it in the remainder of the article.

Figure 1: Wheat area and yields in the “Virgin Lands” (1953-2011)

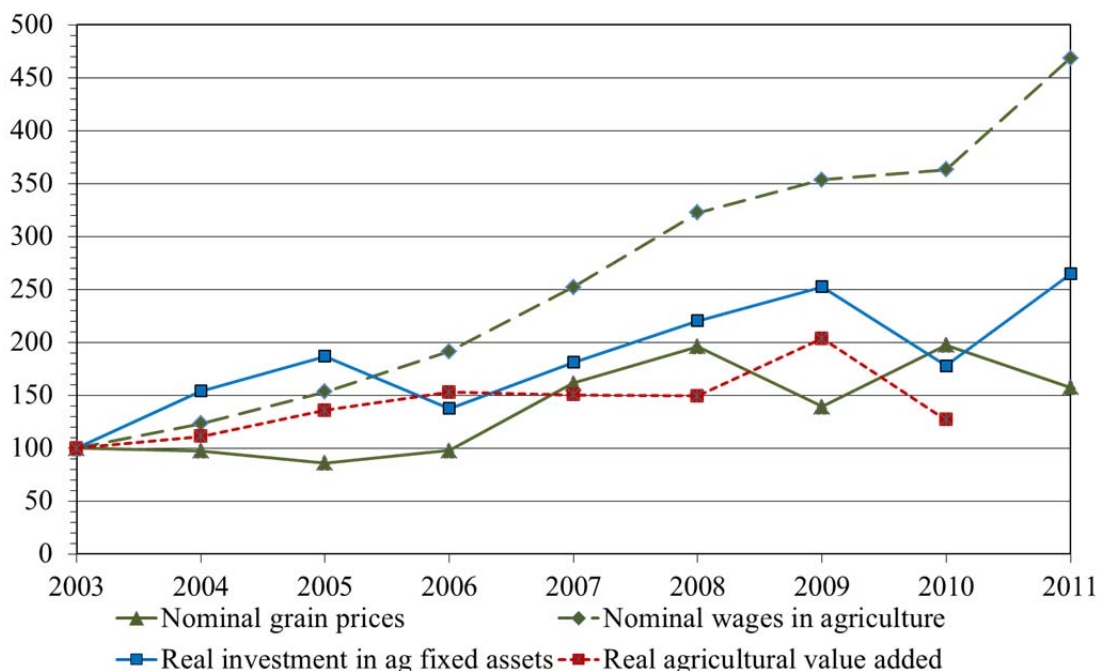


Source: Authors' calculations based on Statistical Yearbook 50 Years Start of the Virgin Lands Campaign (1953-2002) and Statistical Yearbooks of Agriculture, Forestry and Fishery in Kazakhstan. Area covered in the figure includes today's provinces of Akmola, Kostanay, Pavlodar and North-Kazakhstan.

Wheat area re-expanded strongly between 1999 and 2008, and five million ha of cropland were put into production again. Along with cropland expansion went an increase in input use. Starting from a practical absence of application in 2000, now about five per cent of all cropland receive fertiliser, though with considerable annual fluctuation. From 2003 to 2011, real investment in agricultural fixed assets in the region increased by more than two and a half (Figure 2). In nominal terms, it grew from 11 to 74 billion tenge (74 to 505 million USD). Relative to Kazakhstan as a whole, almost all the increase in investment occurred in the NKGR. In practice, this primary meant investments in buildings and machinery, leading to a substantial upgrading of farming technologies. On large crop farms, modern zero tillage equipment as well as satellite-controlled precision farming technology are now commonly in use. With fluctuations, grain prices doubled in the period observed. Reflecting the trends in land expansion and intensification, real agricultural value added (the real regional product of agriculture) in the NKGR doubled between 2003 and 2009, but went down again in 2010.³ One reason for this recent downturn may be that, due to sharply increasing nominal wages, farm labour became much more costly. We discuss this further below in more detail.

³ Data on value added from the record harvest year of 2011 was still missing at the time of writing.

Figure 2: Economic indicators North-Kazakh Grain Region (2003=100)



Notes: Grain price index is simple average of provincial grain indices for Akmola, North-Kazakhstan and Kostanay, wage index is annual provincial mean of monthly average wage in agriculture weighted by population employed in agriculture per province, investment is deflated by industrial investment goods price index, agricultural value added is deflated by agricultural sales price index.

Source: Authors' calculations based on Statistical Yearbooks Regions of Kazakhstan and electronic tables provided at www.stat.kz.

Given these indicators of agricultural development, we now concentrate on the following questions that have been prominent in recent debates about the rise of worldwide agro-investment:

- (1) To what extent have property rights reforms in land hampered or eased investment in Kazakhstan's grain region?
- (2) What is the role of the government authorities in fostering investment?
- (3) What kind of investment is taking place in Kazakhstan's agriculture and where do the investors come from?
- (4) What types of farming organisations emerged in this institutional, political and economic framework?
- (5) What is the impact of recent agro-investment on rural employment and income?

3 Property rights in land: setting the scene for recent agro-investment

Traditionally, land resources in the North Kazakh steppe were used with little intensity by indigenous pastoralists. In the second half of the 19th century, land seizures and settlement of Russians and Ukrainians under colonial rule of Tsarist Russia increasingly constrained this nomadic economy and imposed de-facto state ownership of land on the huge territory (Olcott 1995, 57-99). Indigenous land use patterns were ignored and Kazakh nomads forced to settle and join collective forms of production (Giese 1983; Olcott 1995, 176-198). Suffering from chronic labour shortages during the "Virgin

Lands Campaign”, the Soviet administration supported the settlement of further Russians, Ukrainians and ethnic Germans.⁴ The practical absence of a supportive infrastructure required extraordinary monetary incentives to attract workers on a voluntary basis (Wein 1980). From early on and following socialist ideology, crop production was based on an industrialised model of agriculture entailing hired labour. This production system basically existed until the collapse of the Soviet Union in 1991 (Table 2).

Table 2: Main policy initiatives and their effects on land use

Year	Policy initiatives	Main outcomes
1954	Start of the Virgin Lands Campaign.	Establishment of huge state farms on former steppe land.
1991	National independency, followed by reform legislation in various areas.	Start of formal conversion of state and collective farms into producer cooperatives and other legal forms, little substantial restructuring.
1995	Law “On land” institutes share privatisation. Withdrawal to form individual farms is allowed.	Government ownership of land, but rural residents obtain up to 99-year leasehold of “conditional land shares” without specific demarcation of plots. Three options: (1) creation of an individual farm, (2) formation of an agricultural enterprise, (3) sublease to other users. Inheritable private ownership of household plots and dacha land is acknowledged.
1998	Application of bankruptcy procedures as response to widespread insolvencies.	Conversion of most producer cooperatives into limited partnerships, concentration of formal ownership into hands of management following official recommendations, new management and outside investors become active, but creation of individual farms is also accelerated.
2001	Terms of lease for existing and future contracts reduced to 49 years, announcement that subleases will have to be terminated.	Increasing uncertainty about security of land tenure.
2003	New land code adopted, introducing private ownership of farmland. Sublease of shares prohibited, land either to be self-cultivated or contributed as capital share to agricultural enterprise, “merging small farms campaign”.	Implementation in 2005, preferred option of former sub-lessors is to contribute to stock of agricultural enterprises, but creation of individual farms is also exercised.

Source: Authors’ compilation.

Since national independence, land legislation in Kazakhstan has been subject to ongoing reform and it underwent a major paradigm shift in the early 2000s. In the 1990s, the paradigm was that all land remained in state ownership. Nevertheless, major private property rights were introduced – the right to temporary or permanent use of land leased from the government, to extract benefit from it and transfer it via sublease. So called “conditional land shares” in the form of paper certificates of entitlement were

⁴ 19th and 20th century activity of Russian rulers thus represent a model case of forced colonisation. Current critics of “land grabbing” fear that similar processes may happen today in developing countries, possibly aided by transnational corporations.

distributed among rural citizens. However, no specific, physical land plot was assigned to the share, so that the holders of the certificates were not aware of the location and shape of the land to which they were issued the rights.

In 1995, the law “On land” confirmed the principle of state land ownership and private use rights under long-term lease from the government for a period of 3 to 99 years for rural residents (farm workers and staff, pensioners, persons working in the social sphere such as doctors and teachers). The main legal options for holders of conditional land shares were as follows: (1) Shares could be joined to form an agricultural enterprise; (2) shares could be redeemed to withdraw land plots in order to form individual farms; and (3) shares could be subleased to other users (USAID 2005).

In this period, a legal form of corporate farming emerged that would play a dominant role in the NKGR, the limited liability partnership (Gray 2000). This form of partnership allowed the concentration of shares in the hands of the director and was widely supported by government authorities. It was a means to continue large scale farming operations under post-socialist conditions without having to deal with a large number of decision makers (as formally required in producer cooperatives). In the coming years, such limited partnerships would form the backbone of agricultural enterprises in the NKGR. Together with joint stock companies and producer cooperatives, they represent the group of agricultural enterprises. They are legal persons recognised by the Civil Code (Petrick et al. 2011, 16). For most beneficiaries of land share redistribution, renting their land to the enterprises was the only way to make productive use of their land shares. Even so, the creation of individual farms also accelerated, so that among the registered farms a significant number of both corporate and individual farms began to coexist.⁵ As the cultivation of household plots established under Soviet rule continued to contribute a significant share in gross agricultural output, a tri-modal agricultural structure emerged.

Towards the turn of the millennium, the paradigm shifted towards the recognition of full private ownership of farmland. The initial target year for recognizing full private property rights on agricultural land was 2001, but there were objections that this proposal was conflicting with Kazakhstan’s former nomadic culture. The only agreement reached by 2001 was the reduction of the maximum lease period from 99 to 49 years. A new land code finally passed in 2003, allowing private ownership of agricultural land with all property rights, including the free sale and purchase of land plots. At the same time subleasing of land shares (option (3) under the 1995 legislation) or demarcated land plots received under previous privatisation steps was outlawed. The law also stipulated the confiscation of farmland by state authorities without compensation in case it was not used for agricultural purposes for two consecutive years (articles 92 and 95).

There were important interim provisions (article 170) which regulated the abandonment of sublease. In particular, subleased land shares as well as land plots could be contributed as a share to the capital stock of an agricultural enterprise. This contribution

⁵ Following established terminology in Russian, the individual farms are called “fermer” or “peasant” farms in Kazakhstan. However, unlike the conventional understanding in other development contexts, these farms are neither operated by peasants in the classic sense nor are they small. We therefore use the more neutral terminology “individual farms”, indicating operations run by a natural person rather than an incorporated agricultural enterprise.

meant that shareholders would receive a dividend on capital in the future, rather than a rent on land as in the past. Whereas land rent usually used to be a fixed proportion of the harvest (e.g., five percent), the dividend is contingent on the profitability of the enterprise after managers and workers are paid. How big the dividends will be in relation to actual enterprise profits depends largely on the good will of the farm manager, as rural residents usually have no insight into enterprise records and little bargaining power. Farm case studies prepared for this article document that agricultural enterprises now commonly benefit from such land contributions (cases 1 and 2 in appendix).

While land purchases have been increasing recently, the vast majority of land is still rented from the government at a normatively set low price. As the large land users are politically well represented in the Kazakh government, there is no political interest in raising state revenues from increasing this normative price. Recent data published by the Ministry of Agriculture show that, in 2010, only one per cent of all agricultural land were in full private ownership, while 15 per cent were cultivated by the state. The remaining 84 per cent were in private use, based on long-term lease (Assayeva 2012). As secondary rentals of land leased from the state are prohibited, short- and medium-term adjustments in land use outside the land sales market are difficult. Interviews with farmers and local experts revealed that they mostly occur when existing farms change ownership, due to liquidations or mergers, and the land shares are transferred to the new owner (case study 4). Land transactions are largely controlled by local land commissions (following article 14 of the land code), in which directors of existing farms and local officials are represented (World Bank 2007, 89). The commissions may be subject to political influence and corruption. Agricultural enterprises benefitted from the new legislation more than individual farms, as the latter could not acquire land shares from rural residents via the interim provisions.

Following statements collected in USAID (2005, 40) and World Bank (2007, 92), except for occasional complaints about the one-sided power of local farm directors and government officials, rural inhabitants in north Kazakhstan do support land share privatisation and the maintenance of large farms. They were more critical with the contribution to the corporate farms' capital stock, as stipulated in the new land code. In a household survey carried out by the World Bank among 150 rural households in Akmola province in 2003, 80 per cent of all respondents stated that they perceived land allocation in the course of land reform as "fair" (authors' calculation based on raw data). This is a much higher support to the land reform outcomes than in the whole of Kazakhstan, where only 59.8 per cent of respondents expressed this judgement (Dudwick et al. 2007, 76). The director of our farm case study 2 is an example for an investor who is held in high esteem because he created jobs and incomes for rural people. As reported by local interview partners, after his involvement, the two villages located adjacent to the farm became quite attractive for job-seeking in-migrants from other places of Kazakhstan. In particular in the northern regions of Kazakhstan, there seemed to be no fundamental conflicts involved in the allocation of property rights in

land. But more recent studies on the post 2005 acceptance of the new land code are desirable.⁶

4 Public support to the agricultural sector

From early on in the transition process, individual farms have enjoyed a simpler registration procedure and a lower tax burden than agricultural enterprises (Petrick et al. 2011, 16). Although many of them are actually involved in significant commercial activities, individual farms are regarded as non-commercial entities and are not subject to enterprise legislation. To qualify for these benefits, owners must be members of the same (extended) family.⁷ This advantage runs counter to an apparent preference of government officials for large-scale agricultural enterprises. Lower tax revenues from individual farms may be one reason for this. Moreover, there is evidence that maintaining agricultural enterprises was the preferred option by many government officials during the bankruptcy procedures of the late 1990s (Gray 2000). It was most explicit in the so-called “merging small farms campaign” during the 2005 land code implementation, during which the government made the amalgamation of smaller farms a policy goal (USAID 2005). In addition to revenue considerations, informal mindsets still based on socialist production ideals may have played a role as well (Koester and Petrick 2010). Local policymakers, such as the municipal and district mayors (*akims*), seem to attach a persistent image of smallness and otherness to the emerging individual farms. These mayors are the local representatives of the President of the Republic of Kazakhstan, and thus epitomise the lower end of the administrative hierarchy. Still today, in the minds of these officials, individual farms are regarded as unproductive and backward. This dislike may also have practical reasons, as the distribution of support is easier to handle with a few big players than a multitude of tiny recipients, and a plethora of small farms may be more difficult to control politically (Petrick and Carter 2009).

During the 1990s, agriculture did not receive much government attention. After 2000, when oil revenues became stable, agriculture was rediscovered as a strategic sector for making the Kazakh economy more competitive and diversified. According to Kazakh observers, the governments’ objectives were to substitute food imports by domestic products, thus ensuring national “food security”, and increasingly export agricultural staples as well as processed food products (Wandel 2010). On average, the Ministry of Agriculture’s budget grew by 17 per cent in real terms between 2002 and 2008 (World Bank 2010, 10). The most important forms of support for farmers in this system became credit programmes and a ramified system of area as well as output-oriented subsidies. However, budget priorities were changing during the recent decade. One such shift occurred from direct market interventions (mostly in grain markets) to production-oriented subsidy payments based on area use, production levels and input use. In general, crop production has received more support than livestock production. The trade regime in wheat was not particularly protectionist in the 2000s, although attempts to quantify the (absence of) distortions proved difficult (Pomfret 2008). During the price

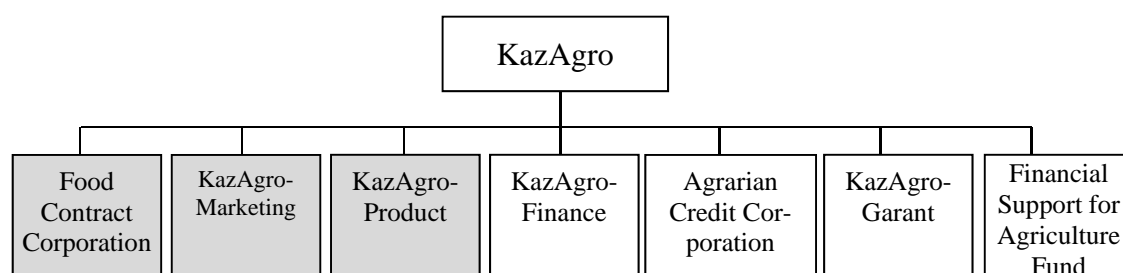
⁶ It should be noted that the possible ethnic conflict among Russians, Kazakhs, and other nationalities was mitigated by the massive emigration of the non-Kazakh population during the 1990s (see section 7).

⁷ Simple partnerships have emerged as a second type of natural person farm organisation, which also allows ownership by non-family members, but shares most other properties of individual farms.

hike in spring 2008, Kazakhstan had introduced a temporary export ban for wheat (Lillis 2008), but has since declared to maintain an open export regime.

To channel support to agriculture, a system of government agencies was set up, which is managed by a fully state-owned holding company called KazAgro. In recent years, it conveyed almost half of the Ministry's expenditure, whereas almost a quarter was spent via local governments (World Bank 2010, 11). Local governments handle the distribution of production-oriented subsidies. The main task of KazAgro is to implement government plans for the sustainable development of the agro-industrial complex. These include the direction of investments into sectors of special importance, the development of the infrastructure, regulation and stabilisation of domestic agricultural markets, assistance with the formation of business clusters, and the implementation of the February 2007 "30 Corporate Leaders" programme in the agricultural and food sector. It unites seven state institutions – all of which are legally joint stock companies – which hitherto operated directly under the Minister of Agriculture (Figure 3).

Figure 3: Structure of the state-owned holding KazAgro



Notes: Shaded subsidiaries focus on production and marketing, white subsidiaries on investment and finance.

Source: Authors based on Gramzow and Suleimenov (2011).

KazAgro is thus an instrument of state economic and agricultural policy, i.e. a sort of a state agency for economic development.⁸ The establishment of such state holdings was part of the diversification policy that had been pushed forward since 2003, in order to counteract the predominance of raw materials in the Kazakh economy. This policy promotes the classification of economic "clusters" or priority sectors, which include the agricultural and food sector as well as high technology. Usually, KazAgro is funded from general tax receipts of the government. However, in exceptional circumstances, funding is also directly coming from the National Welfare Fund, which accumulates the state income from oil sales. This happened during the financial crisis in 2009, when extra liquidity was provided to KazAgro in order to prevent excessive defaults, and in 2011, when a special programme for promoting investments in livestock was offered.

Critics see KazAgro and the other state holdings as just another bureaucratic institution which is taking over tasks that ought to be the work of the ministries, meaning that overlaps are unavoidable. There is also scepticism as to whether an unbundling of economic and political interests can be possible. On the one hand, the national holdings

⁸ It is not a private agroholding of the sort described in section 5.

are supposed to implement economic policy, yet on the other they must operate efficiently like private enterprises and increase the business value of their daughter companies.

There are two groups of KazAgro subsidiaries. The Food Contract Corporation, KazAgroMarketing, and KazAgroProduct focus on production and marketing (shaded in Figure 3). The other subsidiaries are supposed to support investment and finance. The Food Contract Corporation acts as a procurement agency of the government that buys grain at the farm gate and runs state-owned storage facilities in order to ensure national food security. Procurement prices used to be much below market prices, though (Gramzow and Suleimenov 2011). Even so, the Food Contract Corporation accounts for almost half the budget of KazAgro. KazAgroMarketing is engaged in market information services and international promotion activities for Kazakh agricultural products. KazAgroProduct (the Stock Raising Products Corporation) has set up and runs slaughterhouses, feedlots and state dairy farms. The budget of the latter two subsidiaries is small compared to the first one. The second group of subsidiaries is discussed in section 5 below.

5 The origin of investors and sources of finance

5.1 Agroholdings and the origin of investors

Following the post-1998 model of Russian agriculture (Rylko et al. 2008; Wandel 2011), external investors started to control huge tracts of land and integrate several stages of the production process also in the NKGR. However, there are no official data which might permit reliable conclusions to be made about the significance of such agroholdings in Kazakhstan's agricultural and food economy, or in individual sectors. For this reason only some estimates are possible, based on individual case studies and the testimonies of experts. Studies by Kazakh analysts suggest that integrated groups of enterprises are chiefly to be found in the grain sector, to a lesser extent in the oilseed and dairy sectors, and that the large majority is domestically owned (Irbaev and Frangulidi 2006). Akimbekova (2006) estimated the number of agroholdings in the grain sector to be around 40. They are reckoned to control about 30% of farmland devoted to grains, and provide two thirds of the grains sold both domestically and abroad. Oshakbayev (2010) states that each of the three largest holdings in the NKGR controls more than 700 thousand ha, and that the 15 largest holdings cultivate 35 per cent of total sown area in the NKGR.

Irbaev and Frangulidi (2006) make the distinction between large and small agroholdings in the Kazakh grain sector, which exist almost exclusively in the NKGR. According to their research, there are about 15 "big players". These include such enterprises as "Ivolga Holding", "Alibi", "Grain Industry" (Zernovaya industriya), "Agrocentr Astan", "BATT-Grain", "Bogvi", "Cesna Astyk" and "Karasu". Most of these have their origins in grain trade, and have gradually integrated themselves into the upstream sectors of grain processing and production. Some of these large agroholdings themselves are part of business conglomerates which are particularly prevalent in the Kazakh oil, gas, mining and finance industries (see Table 3). "BATT-Grain", for example, belongs to the "BATT Group", which operates in the oil, gas, construction, trade and alcohol sectors. "Cesna-Astyk" TOO belongs to the investment group "Cesna" which began life back in 1988. It operates in construction and finance, wholesale and retail, as well as in the

agricultural and food sector. It began operations in the last of these back in 1992 with the purchase of a grain elevator in Akmola oblast. Since then the enterprise has expanded its activity to encompass grain farming and the production of compound feed, flour, bread, pasta and beer.

Table 3: Characteristics of selected grain holdings

Company	Year founded	Started by	Areas of business	Agricultural land
TOO “BATT-Grain”	1992	Kazakh conglomerate with stakes in the oil and gas sectors, construction and sales	Farming and processing of grain to make compound feed, flour and bread products, and sales operations. From 2007 operations restricted to drinks production.	Up to 2006: no figures Since 2006: 0 ha
TOO “Cesna-Astyk”	1992	Investment company “Cesna” (diversified Kazakh group with stakes in the finance, construction and media sectors)	Production and processing of grain to make flour, bread and pasta products, wholesale and retail sales, beer production.	40,000 ha
“Ivolga-Holding”	1992	Vasiliy Rozinov (Kazakh entrepreneur from grain trade)	Production, processing and sale of grain (flour, compound feed), sugar and raw milk production (in Kazakhstan and Russia).	1 million ha in NKGR 140,000 ha in Russia
TOO “Grain Industry Group”	1996	Milling company	Production and processing of grain (flour, bread and pasta products) as well as sales; low-level milk and oilseed production.	100,000 ha
AO Agroholding “Ellinvest”	2004	Compound domestic feed business	Production and processing of grain (compound feed), poultry and pork production, meat processing.	36,000 ha

Source: Authors’ compilation based on Kazakh journal, newspaper, and internet sources.

The development of the larger known agroholdings in the grain sector has progressed along similar lines. This is well illustrated by the example of the “Ivolga-Holding”, which is also a prime example for domestic investment in the grain region. It was established by one individual, the former sovkhos director Vasiliy Rozinov, who remained the sole owner of the group up to date. He earned the starting capital for the subsequent expansion by trading in grain in the early 1990s. Rozinov recognised very early on that more money can be made in grain trading with own storage facilities, because these allow more flexible response to price changes. He therefore bought a grain elevator in Kostanay and elsewhere. When coordination difficulties with agricultural producers started mounting up soon afterwards and grain deliveries became less and less reliable, Rozinov entered grain farming himself. He bought up debt-ridden

agricultural businesses. The management then discovered further potential for profit in flour and compound feed production, and expanded the business into the upstream sector. In 2005, the agroholding started to diversify by entering into Russian sugar and milk production. According to Rozinov, however, this move was more a result of accident than a long-term business strategy. In 2005, the Kazakh bank “TuranAlem”, which also has branches in Russia, offered Ivolga as one of its regular clients three sugar factories in Kursk oblast, which were unable to settle their debts. “Ivolga” accepted the offer and also immediately bought up nearby sugar producers so as to guarantee the utilisation of the sugar factories. In 2007, “Ivolga-Holding” controlled around one million hectares of agricultural land in Kazakhstan, and a further 140,000 ha in Russia (Irbaev and Frangulidi 2006; Osipov 2007). In 2011, there were rumours that the company had run into financial troubles, which, however, seemed to have no practical consequences so far.

Other large agroholdings with a similar development pattern have diversified in oilseeds (e.g. “Maslodol” and “Vita Soy”) or have integrated forwards into other processing stages, such as bread and pasta production, and retail. Examples of the latter are “Cesna-Astyk” and “Grain Industry” which, by comparison with “Ivolga-Holding”, farm only a modest 40,000 and 100,000 ha respectively.

According to Irbaev and Frangulidi (2006), smaller holdings in the grain sector differ from large ones by the fact that they have a limited involvement in grain exports, and by their lower processing capacity. They usually control several agricultural enterprises, but do not own more than two large elevators and/or grain mills. Examples of this category of agroholding are “TNK”, “KazAgroTrade”, “Kunaykhleprodukt” and “Ellinvest”. The last of these owns one elevator, a compound feed factory and four farms with a total area of 36,000 ha. Meanwhile, “Ellinvest” has gone further in its vertical integration by taking over the production and processing of poultry and pork.

Practically all of these agroholdings are controlled by domestic investors. Other than in Russia and Ukraine, foreign investors so far have shown little interest in Kazakhstan’s farm sector (Visser and Spoor 2011, 312). The single notable exception is an engagement by the Chinese government to lease land in the Kazakh provinces bordering China. In 2003, 7,000 ha of land were apparently rented for a ten-year period to produce soybeans and wheat and to breed livestock (ibid.). Workers were brought in from the Chinese Xinjiang province. In 2011, an alleged agreement among Kazakh and Chinese officials concerning the rental of one million hectares in the southern Almaty province for a 99-year period by Chinese investors was reported in the media (Voloshin 2011). The land was supposed to come either from the Kazakh national land fund or from individual farmers who should be attracted as future workers on a large-scale operation. These plans were discussed in an unusually critical way in the Kazakh public.

5.2 *Domestic sources of agricultural finance*

Next to equity capital infused by a mother company, commercial and publicly subsidised bank loans have been sources of finance for agricultural producers. In 2010, total bank loans worth 2.0 million USD were taken by companies in the agricultural and food sector of Kazakhstan. Nominal interest rates in that year stood at about 13 to 16 percent. However, probably more than three quarters of this credit volume went to food processing companies rather than to primary producers (Gramzow and Sulemeinov 2011). Bank loans to agriculture tripled between 2003 and 2007 up to a peak of 2.2

million USD, but have declined since (Issayeva 2012). The share of agriculture in nationwide commercial lending fell from 12 per cent in 2003 to under four per cent in 2010. In late 2007 and 2008, commercial lending to the agricultural sector in Kazakhstan strongly contracted due to the unfolding global financial crisis. A major reason for commercial bank withdrawal from agriculture was high default rates: In September 2011, 10.6 per cent of loans to agriculture were non-performing, and 33.7 per cent were at risk (Issayeva 2012).

Fearing negative consequences for domestic food security from the contracting private credit supply, the Kazakh government promoted access to funding from the state-owned holding KazAgro described in section 4. Its subsidiary, the Agrarian Credit Corporation (AKK), has been the key government agency providing farmers with subsidised credit. To this end, it is linked to a network of 150 so-called Rural Credit Partnerships. These partnerships consist of 30 to 40 farms whose managers have to make a deposit in order to become members and thus eligible for funding. Based on available farm collateral, farmers submit their credit proposals via the Credit Partnerships to the AKK. If the proposal is accepted, the AKK grants a credit at a subsidised rate (four per cent in 2011) to the Credit Partnership. The latter hands this credit over to the farmer at double the rate. Unlike traditional credit cooperatives in other countries, the Credit Partnerships have no autonomy in decision making (Gaisina 2007). They are not allowed to take regular savings and have no control over the deposits made by farmers. Only registered enterprises (including individual farms), but no private individuals can become members. Rural Credit Partnerships are simply the local branch of a centralised governmental subsidy programme. Recently, default rates have also been high. In another programme, the AKK provides specific credit lines for livestock purchases. AKK expenses account for a little more than 20 per cent of KazAgro's budget (Gramzow and Suleimenov 2011).

Among the other KazAgro subsidiaries involved in financing agriculture (Figure 3), KazAgroFinance is primarily involved in leasing arrangements to provide farmers with access to machinery and livestock at favourable terms. It uses almost a quarter of the KazAgro budget. The remaining two financial subordinates of KazAgro have a much smaller budget. KazAgroGarant provides credit guarantees to agricultural enterprises. The Fund for Financial Support in Agriculture was created as a microfinance agency for small farms and non-agricultural businesses.

Casual evidence based on field visits suggests that many farmers, including individual ones, have taken advantage of the subsidised funding facilities provided by the government. However, obtaining cheap credit from KazAgro is reported to be cumbersome and bureaucratic (Petrick et al. 2011).

6 Emerging farming structures and the competitive type of farm organisation

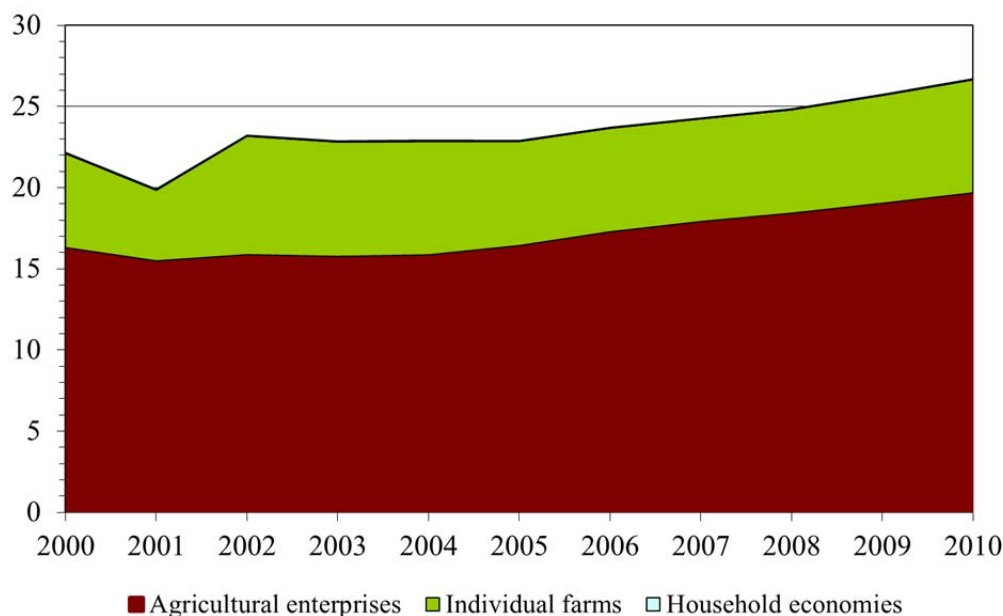
The viability and relative performance of individual farms under conditions of post-Soviet agriculture has been a controversial issue among academics and international policy advisors. Many analysts used to be convinced that – compared to corporate farms and following the model of most Western economies – individual family farms represented the more efficient and also more equitable mode of production. In the international agro-investment debate, small farms often appear as something inherently

valuable and worth of protection (Collier 2008).⁹ Given this debate, the NKGR represents an interesting case in which competition among the two types of farming organisations can be studied on a more level playing field than in other post-Soviet countries. This is mostly because individual farms have emerged earlier and in larger numbers than in the other land-rich former Soviet republics of Russia and Ukraine. There were likely enough individual farms to trigger a self-reinforcing reform process, other than in Russia and Ukraine for most of the 1990s (Petrick and Carter 2009). Furthermore, as we argue below, production portfolios and technologies are very similar among enterprises and individual farms, so that there is direct competition for resources. The overall picture of farm dynamics in the last years has been one of declining farm numbers but increasing farm sizes, both for the corporate and the individual sector.

Compared to the initial situation at the cessation of the Soviet Union, the number of incorporated farms had gone up from 1,300 state farms in 1990 to about 1,700 agricultural enterprises in the early 2000s. At the same time, the average size decreased considerably, from more than 14,000 ha to about 10,000 ha per farm. Total land under cultivation by agricultural enterprises fell to less than 16 million in the early 2000s (Figure 4). However, land use by agricultural enterprises in the NKGR picked up again in 2001 (statements based on Statistical Yearbooks of Agriculture in Kazakhstan, various issues).

⁹ For some of the analytical underpinnings of this view see Binswanger et al. (1995) and Tomich et al. (1995). A key argument has been that family farms are more productive because labour shirking is mitigated by family ties. Lerman (2010) shows that Kazakh regions with more individual farms also display a higher land productivity, which he attributes to a general superiority of individual farms. The relevance of the Western farming model for the post-socialist countries has recently been called into question by Wandel et al. (2011).

Figure 4: Land use by different farm types in North Kazakh Grain Region (million ha)



Notes: Data for agricultural enterprises and individual farms is all types of land, household economies is sown area (barely visible).

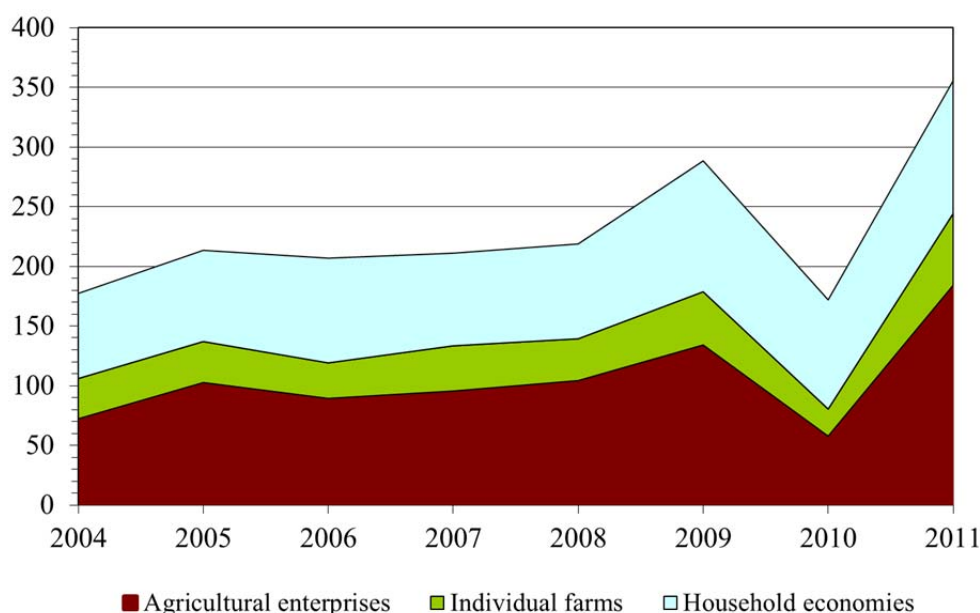
Sources: Authors' calculations based on Statistical Yearbooks of Agriculture, Forestry and Fishery in Kazakhstan.

The number of individual farms proliferated quickly by the end of the 1990s, probably as a by-product of bankruptcy proceedings applied to agricultural enterprises. It further went up to about 13,000 farms until the mid 2000s, but then came under pressure and stood at about 12,000 farms by 2010. With slight fluctuations, average individual farm sizes are now above 500 ha, and have been growing since 2005. Even so, there has been a consistent pattern of growth in land area controlled by agricultural enterprises over the last decade. They continue to cultivate around three quarters of the agricultural land used in the NKGR, and land use vis-à-vis individual farms tends to expand in both absolute and relative terms (Figure 4).¹⁰

Growing land use by agricultural enterprises is reflected in a growing share in gross agricultural output (GAO) (Figure 5). In addition to agricultural enterprises and individual farms, household economies contribute about 40 per cent of GAO in the NKGR. This share is considerable, but lower than in other Central Asian countries (cf. Lerman 2010, 103). Important outputs of household economies in the NKGR are livestock products (milk, meat) as well as labour-intensive field crops such as potatoes and vegetables. These high-value crops are produced on a minimal share of land, which covers about 60 thousand ha and is barely visible in Figure 4. Household farms supply products that are increasingly in demand, such as milk consumed by urban residents (case study 8).

¹⁰ Note that these figures give an idea of land that is potentially usable by farms. It includes pasture land and may include land that lies temporarily fallow.

Figure 5: Contribution of different farm types to Gross Agricultural Output, North Kazakh Grain Region (billion tenge in 2000 prices)

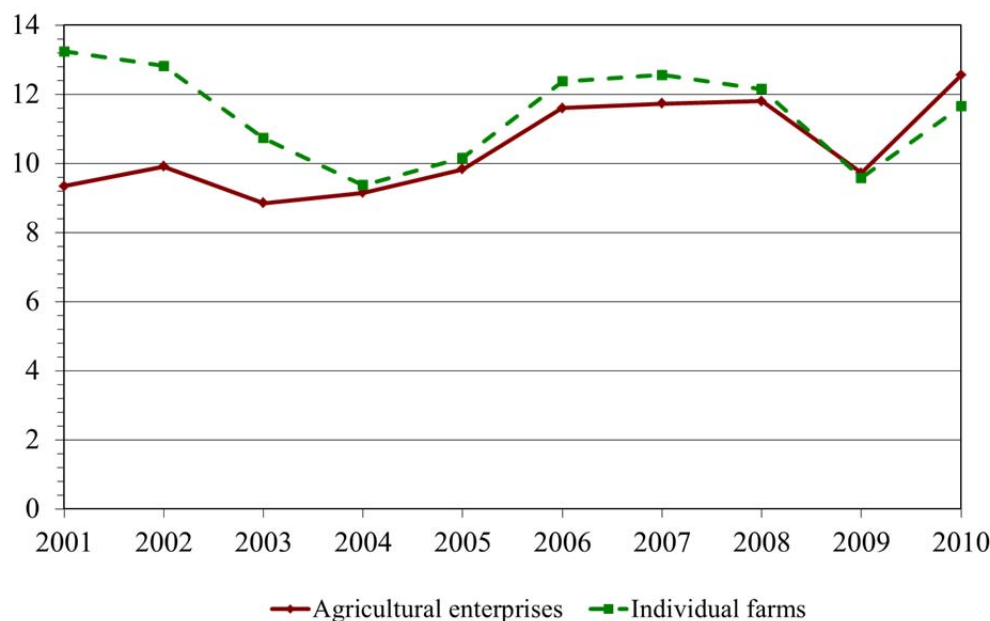


Sources: Authors' calculations based on Statistical Bulletin Value of Agricultural Production, various issues, deflated by agricultural sales price index published at www.stat.kz.

Figure 5 also demonstrates that unfavourable weather conditions such as in 2010 can still have profound effects on overall sector output. Particularly the producers of rainfed grain, i.e. the agricultural enterprises and the individual farms, experienced a notably reduced harvest caused by drought.

Case study results as well as official statistics suggest that in the NKGR, production portfolios, technologies and natural conditions are mostly identical for both individual farms and enterprises. From a managerial standpoint, most individual farms seem to be simply smaller agricultural enterprises. They are typically run as a family business, but also depend on hired labour and face similar incentive problems with regard to labour supervision. Land is often rented from the government and at least some of the individual farmers do have access to governmentally sponsored credit facilities and other subsidies. Even so, capital intensity is likely to be lower than in agricultural enterprises, and machinery use more often based on dated Soviet technology. Concerning the relative economic superiority of individual versus corporate farms in the NKGR, the evidence is mixed. Productivity figures are very close. Whereas agricultural enterprises continue to use more land (Figure 4), crop-specific land productivity used to be slightly higher in individual farms, as wheat yields in Figure 6 show. However, the gap between both groups has narrowed in past years and enterprises have taken over the lead just recently. Both types of farms increased land use and land productivity over time, and thus contributed to agricultural recovery in the NKGR (case studies 3-7).

Figure 6: Wheat yields in different farm types, North Kazakh Grain Region (dt/ha, three-year moving average)



Source: Authors' calculations based on Statistical Yearbooks of Agriculture, Forestry and Fishery in Kazakhstan.

Both enterprise and individual farm managers were concerned about future access to qualified labour. A vocational training of agricultural workers does not exist and also college education for management staff appears to be still widely production-oriented and with little focus on business management. In addition, labour supervision and the design of incentive-compatible employment contracts are persistent issues for many managers. In this management field, little systematic knowledge is available about actual practice and possible options, including new supervision technologies.

7 Employment and rural welfare impacts

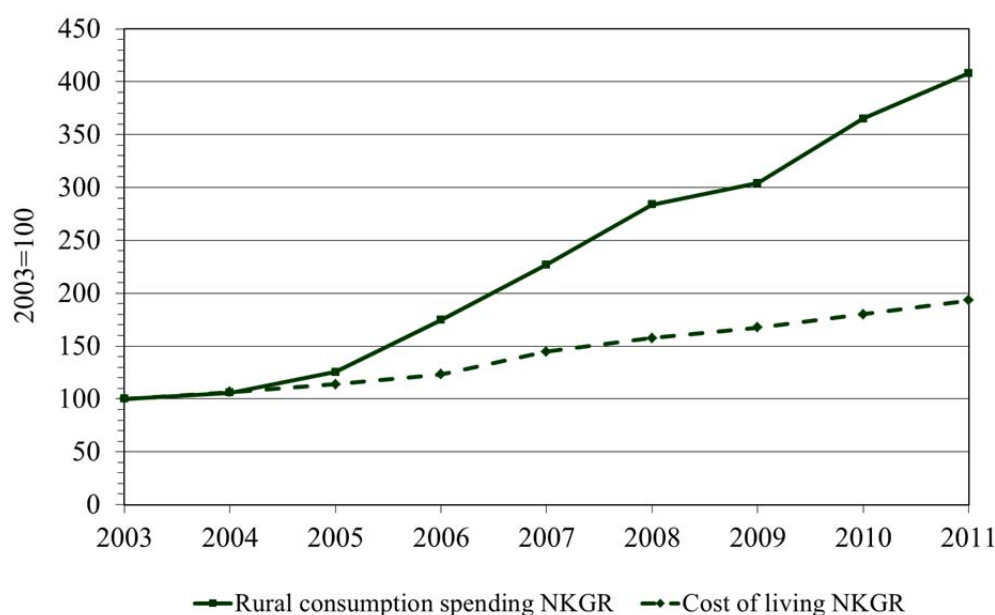
When the Soviet Union collapsed in 1991, the number of people living in the NKGR stood at about 3.21 million. However, the subsequent decade saw a mass emigration of about 750 thousand people, particularly ethnic Russians, Ukrainians, and Germans (Sievert et al. 2011). Because of a relatively high fertility of the remaining ethnic Kazakhs, population decline was halted in the following decade and population numbers in the NKGR stabilised at a bit less than 2.3 million people. This implies a population density of 5.2 persons/km². About 1.3 million people live in rural areas of the NKGR (Statistical Yearbooks Regions of Kazakhstan, var. issues).

The share of the economically active population employed in agriculture has stayed at around 40 per cent for the NKGR since 2001. Agriculture thus continues to be a significant economic factor for employment in this region. Recent changes in farming organisation had little impact on actual employment numbers. The share of agriculture in regional Gross Domestic Product is lower than the share in employment, and has been falling from almost 35 per cent for the NKGR in 2001 to 17 per cent in 2010. A direct implication is that average labour productivity is lower in agriculture than in other

sectors of the NKGR economy, and that this productivity gap has been increasing recently (Statistical Yearbooks Regions of Kazakhstan, var. issues).¹¹

Despite this lagging productivity, real incomes in rural areas of the NKGR have been rising notably. Figure 7 shows that nominal consumption spending by rural households in the region quadrupled between 2003 and 2011, while the costs of living only doubled.

Figure 7: Consumption spending and cost of living for rural households in North Kazakh Grain Region (2003=100)



Notes: Consumption spending is the sum of cash income used for consumption (not including savings and investments), the value of production for own consumption and transfers in kind (*dokhody domashnikh khoziaistv*). Production for own consumption is valued at average regional purchase prices (Statistical Yearbook Regions of Kazakhstan in 2009, 110). Spending is weighted by population size for Akmola, Kostanay and North-Kazakhstan provinces. Cost of living index is simple average of provincial consumer price indices for these three provinces.

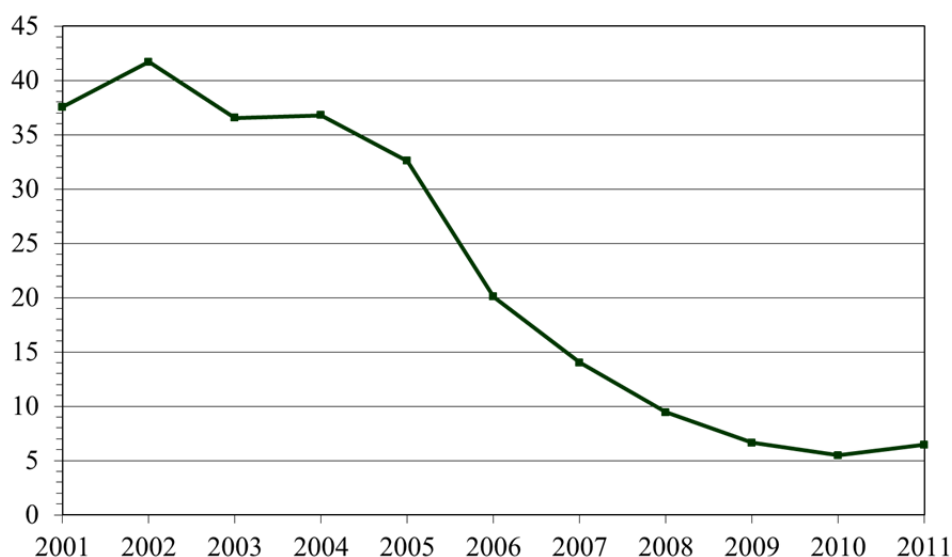
Source: Authors' calculations based on Statistical Yearbooks Regions of Kazakhstan. Spending estimations draw on representative household surveys conducted quarterly by the Kazakh Statistical Agency.

Along with rising household incomes, poverty indicators went down impressively over the recent decade. The Kazakh Statistical Agency calculates a regionally differentiated household subsistence income every year, which includes food and non-food items (Statistical Yearbook of the Regions 2009, 110). This normative subsistence income was raised consistently over recent years. It is taken here as an absolute poverty line. Household income estimations are based on representative household surveys conducted quarterly and include household production used for own consumption as well as in-kind transfers. While in the early 2000s almost every second household in the NKGR was considered poor, this figure dropped to five per cent in 2010 (Figure 8). After some methodological modifications were introduced in 2006, the proportion of poor households is no longer published separately for urban and rural households.

¹¹ A closer look at the composition of regional product shows that construction work has been expanding in recent years, probably due to the implementation of major transport infrastructure development in the region.

Figures based on the previous system available until 2005 indicate that rural poverty rates were in the range of one and a half to two times the urban rates. Poverty levels thus fell faster in urban areas of the NKGR.

Figure 8: Share of households below the poverty line, North Kazakh Grain Region (%)

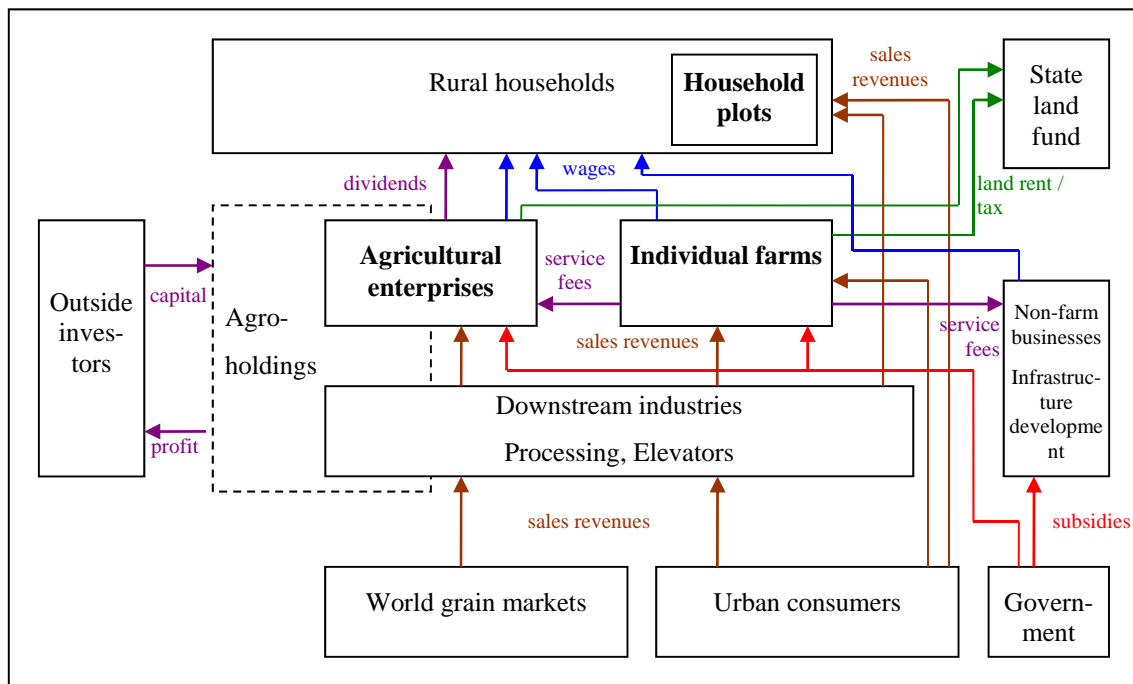


Source: Authors' calculations based on Statistical Yearbooks Regions of Kazakhstan.

To give an insight into the drivers of income increases, Figure 9 illustrates the main financial relationships relevant for rural households and agricultural producers in the NKGR. Agricultural enterprises' main sources of revenue are grain sales to downstream industries and/or world grain markets. They benefit from capital, technology, and management brought by outside investors, and may be part of integrated business structures (agroholdings) which encompass several stages in the food chain. However, they rely on the local labour force and are an important player on local job markets. Agricultural enterprises pay dividends to rural households which contributed their land to the enterprises' capital stock. Furthermore, they make rental payments to the government, the only source of rental land. At the same time, they benefit from crop-related subsidy payments as well as investment aids the government has recently provided to an increasing extent (see section 5).

Individual farms have sales channels similar to the agricultural enterprises, except that the channels may be more diversified, may involve more intermediaries, and may include direct sales to local or urban consumers (Petrick et al. 2011, 39). Individual farms also seek workers in the rural labour market. In addition, they receive some of their services from agricultural enterprises or non-farm businesses, which are paid in cash or in kind. Many individual farms also rent land from the state. For individual farms, there are lump-sum payments to the government, which satisfy land rent and land tax at the same time.

Figure 9: Financial flows in the rural economy of the NKGR



Source: Authors.

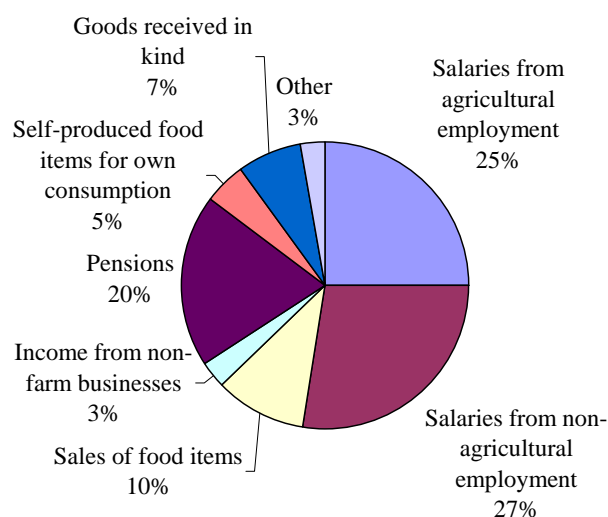
The main assets of rural households that do not operate an individual farm are their labour force, the household plot, usually some livestock, and shares in arable land cultivated by agricultural enterprises. This allows them to receive income from the following sources:

- Wage incomes from agricultural and non-agricultural employment;
- Public pension transfers based on rights acquired from earlier employment;
- Revenues from product sales, e.g. vegetables grown on the household plot and livestock products; while some of these products are directly sold to consumers, others are processed in downstream industries (e.g., milk);
- Income from other entrepreneurial activity;
- Dividends from land shares in agricultural enterprises.

Unfortunately, no detailed information about the relative importance and dynamics of the different income channels of rural households is available. The only piece of evidence we have is based on survey data collected by the World Bank in 2003 (Dudwick et al. 2007). Statements about income sources by 150 randomly chosen rural households in one of the NKGR provinces are summarised in Figure 10. It shows that in 2003, about half of the household income came from salaries, while 20 per cent came from pensions. Sales of self-produced food items account for at least 10 per cent of household income, whereas additional five per cent were also consumed by the household. Seven per cent were in-kind incomes, probably land rental payments

received from agricultural enterprises or individual farms.¹² Incomes from non-agricultural businesses have a small share of three per cent in total income.

Figure 10: Income sources of rural households in Akmola province, 2003



Notes: Answers to the question: What portion of the total household monthly income consists of the following items? (in per cent). Numbers are mean per centages across households. N=150.

Source: Authors' calculations based on World Bank survey 2003 (Dudwick et al. 2007).

According to Figure 2, nominal wages in agriculture increased almost fivefold between 2003 and 2011. As the cost of living only doubled (Figure 7), there is a real gain in purchasing power of almost 150 per cent. There has been a reduction in the number of people employed in the agricultural sector from 556 thousand persons in 2001 to 510 thousand in 2011, but the share of agriculture in overall employment remained stable. Unemployment rates in the NKGR were below 6 per cent in 2011, with a falling tendency. Recent wage increases are thus likely a main driver of poverty reduction. Qualified rural labour has become scarce, which implies increasing market power for workers compared to a situation of abundant rural labour. Some wage increases seemed to be due to off-farm employment, for example in the booming construction sector. This in turn is fuelled by large infrastructure projects funded by the Kazakh government. More research into the determinants of rural wage increases is required.

Casual evidence from field observations suggests that demand for some of the household produce (such as milk) has also risen (case study 8). Little is known about the responsiveness of dividend payments to improvements in the profitability of agricultural enterprises.

An interesting question is whether rural households benefitted from recent rises in food prices (Figure 2). A key issue to answer this question is whether households are net buyers or sellers of food (Aksoy and Hoekman 2010). For households running an

¹² Sublease of land to individual farms was still legal at the time of data collection.

individual farm, it seems clear that they are net sellers, so that their incomes increase during price booms. With regard to other rural households, we may use Figure 10 plus additional evidence to explore this question. Several sources of rural household income are directly or indirectly linked to food prices: the salaries from agricultural employment, the sales of food items, consumption of self-produced food, and in-kind payments, which are also likely often food items (e.g., grain). Added up, these items account for 47 per cent or almost half of the total household income. On the other hand, in 2003, the average household in Akmola spent 48 per cent of cash consumption expenditure on food, almost the same number (Statistical Yearbook Regions of Kazakhstan in 2007, 125). However, as cash income is only a part of the total income reported in Figure 10,¹³ the share of food items on the income side is likely to be higher than on the expenditure side. When food prices rise, rural household net welfare thus increases on average.¹⁴

Figure 9 and case studies 5 and 6 also demonstrate the manifold interdependencies that exist among the three main types of agricultural producers, particularly in the area of service and input provision. Traditionally, household economies used to benefit from inputs supplied by agricultural enterprises, such as feed or machinery services. It is unclear how important these often informal input flows still are today. In addition, livestock production by households is partly based on access to public grazing land. Also individual farms appear to be dependent in some ways on the agricultural enterprises, even to the extent that the latter represent a type of service station for surrounding smaller producers.

8 Conclusions

The evidence presented in this article documents a widely positive development of agricultural production in the three major grain cultivating provinces of Kazakhstan. Vertically and horizontally integrated agroholdings have brought outside investment and management to the region, originating mostly from domestic investors. Together with a re-expansion into formerly abandoned cropland area, capital input and real agricultural value added have gone up since 2003. Privatisation legislation has finally allowed private ownership of land. However, access to state land and capital continues to be strongly regulated, and private lenders even turn away from agriculture. There are now three dominant groups of agricultural producers in the region: large corporate agricultural enterprises including agroholdings, smaller individual farms mostly engaged in grain, and tiny household economies focusing on vegetable and livestock. While agricultural enterprises have been growing more persistently than individual

¹³ Cash consumption (*potrebitel'skie raskhody naseleniia*) here neither includes consumption of self-produced food nor in-kind transfers.

¹⁴ Household cash consumption spending in Akmola (not including the capital Astana) was 76,684 KZT in 2003 (Statistical Yearbook Regions of Kazakhstan in 2007, 125), whereas the rural households surveyed in the World Bank 2003 study had a median annual income of 234,000 KZT. This is about three times the level reported in the official source. One reason for this difference may be that the World Bank respondents included incomes that were received in-kind and that non-cash expenditures are not considered in the official Kazakh source. However, it is unlikely that this can explain the entire gap. If the World Bank respondents were on average more affluent than the households surveyed by the Statistical Agency, it is likely that they spent a smaller share of their income on food items, so that the net benefit from rising food prices was even higher.

farms in recent years, average land productivity of both farm types is practically identical and until recently wheat yields were even higher in individual farms. With stable employment in agriculture, real consumption spending of rural households has doubled over the last decade.

The North Kazakh Grain Region thus represents an interesting case of agro-investment taking place in the Eurasian subcontinent, contrasting in several ways with processes denounced as “land grabbing” in other regions of the world:

- There is no tradition of individual land use and ownership in the region, and smallholder farming was not the default situation at the outset of the recent investment boom. Therefore, *property rights in land* tended to be weak and disputed over the last two decades. More recently, the prevailing arrangement of long-term land leases pooled in large enterprises or individual farms has stabilised sufficiently to provide a fertile ground for investment. More efficient land use may be possible with a more flexible and transparent land rental system that also allows short-term changes in rentals of single plots. Even so, the existing tenure system is benefitting the corporate farm operators, which appear to have sufficient political influence to maintain it in the foreseeable future. The deficiencies of the current system may become more visible if further capital investments and management upgrading increase the marginal value of land and thus lead to tightened competition among land users.
- Since national independence, the Nazarbayev administration has established a *strong central state* resting on streamlined and strictly hierarchical ministries, agencies, and local representatives. After the more chaotic first transition decade, the government plays an increasingly important role in setting the framework for agro-investment primarily via land administration and financial support policy. The state holding KazAgro is its main executive body. From an economic point of view, the support system is likely inefficient as it lacks competition, targeting and evaluation. However, politically connected domestic investors are probably using it to their benefit. Local authorities are subject to orders from the central government, and commonly favour large-scale, wage-based agriculture.
- So far, *foreign stakeholders* in agro-investment and land deals play a subordinate role. A major Kazakh investor, “Ivolga-Holding”, has rather become active in neighbouring Russia. Recent negotiations with Chinese investors about large-scale land rentals in East Kazakhstan led to a surprisingly critical reaction in public media, and seem to have had little practical consequences so far.
- The emerging spectrum of *farming systems* is diverse and entails a complex network of interrelations. It seems too early to say whether agroholdings and superlarge farms will be a sustainable organisational mode of production in Kazakhstan. Recently, a pragmatic coexistence of agro-enterprises, smaller individual farms and household economies has stabilised. Agroholdings typically control several large farm enterprises, although the interlinkages among the single enterprises in terms of operational and strategic management, capital access, marketing etc. are not always obvious. Most of the investment and land expansion in the region took place on these enterprises. Individual farms benefit from strong enterprises as they use them as input suppliers and service stations. At the same time, there is competition for land and individual farms appear to lag behind enterprises in terms of capital intensity.

- In the 1990s, large farm directors and local government authorities tended to be the most powerful actors in this network and thus were likely to gain most from it. However, increasing labour scarcity has recently shifted this *balance of power* towards the workers. There are clear indications that rural households have benefited from the overall agricultural recovery via increasing wages and household incomes. Households provide increasingly scarce labour to the farms, but also receive machinery and inputs from them. In addition to their wage employment, households are mostly engaged in vegetable and livestock production, and thus complement the production programme of the larger farming businesses.

Traditionally, the majority of local residents regard themselves as workers, not as farmers or landowners. As a legacy of 40 and more years of socialism, rural people tend to value a stable employment relationship with a secure wage income higher than improved entrepreneurial opportunities for the individual. At the same time, policy makers, investors, and farm managers continue to embrace the ideal of the industrialised farm. Large-scale agro-investment based on hired labour serves these preferences, and is thus typically welcome by both government officials and rural inhabitants. The competition of farming types has not yet identified a clear winner, and the emerging network among them appears to allow the realisation of mutual benefits also for rural households. In general, the situation is characterised by much less overt conflict than reported from incidences of “land grabbing” elsewhere. A first lesson to be learned is that, in the foreseeable future, large-scale farming based on hired labour will very likely form the backbone of land cultivation in the Kazakh grain region. It is also probable that a mix of corporate and family businesses will persist. With regard to the long-standing debate on the desirable model for boosting world agriculture, this definitely lends support to the statement that “operational farm sizes may be more flexible than believed in the past” (Deininger and Byerlee 2012, 712).

Another key lesson is that beneficial effects of agricultural investment can and do materialise even in the absence of an ideal protection of property rights or fully transparent forms of citizens’ representation. In the context of overall economic development in places like China, this is not a new insight, but it seems worth stressing in the highly polarised debate on “land grabbing”. While we agree with Visser and Spoor (2011) that conditions of agro-investment in Kazakhstan are “a world apart” (p. 320) from the model-type administrative guidelines proposed by the World Bank and other international organisations, we also see no need to dismiss it as something fundamentally evil and incompatible with human wellbeing (Borras and Franco 2010). Leaving “the world’s largest land reserves” (Visser and Spoor 2011, 299) in Eurasia unused for food production because no capital and management can be harnessed to exploit them seems a high price to pay. Given its agricultural potential, the region is likely to become an even more appealing target for foreign investors in the future. Whether the Kazakh approach to centralised governance and support is well suited for further rising investment remains to be seen. There is certainly space to make the benefits we have recorded even more reliable and transparent for the rural population, for example by delegating the allocation of land and capital to decentralised institutions that are not directly controlled by the government. For the Western advisors, we see few alternatives to insisting on clear rules of the game, as representatives of international organisations have done in the past.

Appendix: farm case studies

Case study 1: This is a director-owned corporation and formally a limited liability partnership. The land resources of 12,000 ha are in long-term leasehold by the villagers who obtained this lease in the course of farm privatisation. The leaseholds were transferred into the capital stock of the farm managed by the current director. The director came as an outsider to the local community. All primary leaseholders (and thus shareholders of the farm) earn an annual dividend based on the performance of the farm. The farm employs 35 workers, including administrative personnel. 40 per cent of the farm workers are also land owners. Many live in the nearby village.

Case study 2: The corporate crop and dairy farm is organised as a limited liability partnership. Of the 52,000 ha of land, 51 per cent are held by the director, the other 49 per cent belong to local residents, who receive an annual dividend on their share. The farm emerged from a former dairy state farm, which hosted about 2,000 cows. It had severe economic difficulties before the current director took over the operations. He is well known in the region for his entrepreneurial attitude and his social engagement for the local community.

Case study 3: This Joint Stock Company is operating on 25,000 ha and has machinery stations in surrounding villages, which also offer services for individual farmers and households. Half of the land still belongs to the villagers living nearby the farm. Several of the land owners also work on the farm. Individual farmers in the villages around it regard it as quite competitive and seem unable to bid land out of it. The competition for workers is also very strong.

Case study 4: This individual farm is family owned and cultivates 650 ha of wheat. The land was rented from the government in 1997 as a 49-year leasehold. Until 1990, it had been cultivated by a collective, after that by a corporate farm which went bankrupt. The current owner had no relation to this corporate farm. The agronomist states that several individual farms created in the 1990s did not survive. Land expansion is difficult, as there is little supply. Occasionally a farm goes bankrupt, then the land is quickly distributed among neighbouring farms.

Case study 5: This individual farm was established in 1997 by the owner who first rented land as a 49-year leasehold from the government. He later bought land under the new ownership legislation of 2003. The price for pastures was 28 thousand KZT/ha (190 USD/ha), the price for arable land 44 thousand KZT/ha (300 USD/ha). The land was formerly cultivated by a state farm, from which his father and other family members had obtained shares in the privatisation process. Now he owns about 538 ha, of which 238 ha are pastures. The farmer regularly orders a railroad freight car with fertiliser together with neighbouring individual farms. Sometimes this has led to coordination problems in the past.

Case study 6: The individual farm was founded in 1998 upon the remnants of a bankrupt collective. The farm cultivates 2,000 ha in total, of which 1,300 ha were taken over from former inhabitants of the village. These were ethnic Germans who left the village and sold their use-rights to the current farmer. An additional 700 ha were rented for 49 years from the government. The total land divides into 1,200 ha of arable land and 800 ha of pastures. On the arable land, 1,000 ha of wheat and 200 ha of barley are grown. The farm occasionally borrows machinery from a nearby agricultural enterprise, for example a manure spreader. The farm also buys seed there. Many of the households

in the village supply labour to the individual farm, while they also grow vegetables and raise livestock on their household plot.

Case study 7: This individual farmer has rented 400 ha of pasture in 49-year lease from the government. There is no rent to be paid, only taxes. He is currently planning to expand his farm by renting another 100 ha from the government. In this course he intends to apply for government support in Astana.

Case study 8: This household farm owns two cows which are milked by hand. Because fresh milk is currently in short supply, the regional dairy company from Shortandy (50 km distance) is coming to the village on a daily basis and collects the milk. During summer, the cows are grazing on public pastures, which can be used for free. Additional concentrate is bought.

For more details on the case studies see Petrick et al. (2011).

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