האוניברסיטה העברית בירושלים

The Hebrew University of Jerusalem

המחלקה לכלכלה חקלאית ומנהל

The Department of Agricultural Economics and Management

המרכז למחקר בכלכלה חקלאית

The Center for Agricultural Economic Research



**Discussion Paper No. 1.15**


# Privatization and changing farm structure in the Commonwealth of Independent States (CIS)


**by**

**Zvi Lerman**

# 2.1 Privatization and changing farm structure in the Commonwealth of Independent States (CIS)

Zvi Lerman[1]

**Abstract**

The most striking feature of the land reform in the post-Soviet space has been the overall shift from collective to individual land tenure in agriculture, generally accompanied by privatization of legal land ownership. Individualization of farming has been among the main factors that acted to arrest the initial transition decline and to produce agricultural recovery in the region. In CIS countries, the recovery point for agricultural growth is closely linked with the observed watershed dates for individualization of farming. Furthermore, the rate and the attained level of recovery are higher in countries that pursued decisive individualization policies (Transcaucasus, Central Asia), while in countries with less sweeping individualization reforms (European CIS) the recovery has been sluggish. Land reform and individualization have also led to significant improvements in agricultural productivity due to the higher incentives in family farming. Greater production and higher productivity have contributed to significant poverty reduction since 2000. To ensure continued improvement of rural family incomes and poverty mitigation, policy measures should be implemented that facilitate enlargement of very small family farms and encourage the access of small farms to market channels and services.

**Keywords:** individualization of agriculture, land privatization, land reform, transition countries, corporate farms, individual farms, household plots, CIS

[1] Department of Agricultural Economics and Management, Faculty of Agriculture, Food and Environment, The Hebrew University of Jerusalem, Israel, zvi.lerman@mail.huji.ac.il. Paper based on a presentation at the *Workshop on the Eurasian Wheat Belt: Future Perspectives on Regional and International Food Security*, EC Joint Research Center, IPTS – Institute for Prospective Technological Studies, 20-22 May 2014, Istanbul, Turkey.

## Introduction

The rural sector in nearly all the twelve countries of the Commonwealth of Independent States (CIS)[2] has undergone a shift from predominantly collective to more individualized agriculture. At the same time, most of the land in the region has shifted from state to private ownership. These two shifts – a shift in tenure and a shift in ownership – were part of the transition from a centrally planned economy to a more market-oriented economy that began around 1990 in the huge post-Soviet space stretching from the Baltic Sea to the Pacific Ocean. The transition reforms in the region were unprecedented in their scope and pace. Some 120 million hectares of agricultural land transferred ownership in these countries in just one decade of reform (1990-2000), compared with 100 million hectares in Mexico during 75 years (1917-1992) and 11 million hectares in Brazil during 30 years (1964-1994) (Deininger 2003). The basis of this shift from collective to individual agriculture lay in two interrelated aspects of agricultural policy reform: *land reform*, which concerns issues of land use rights and land ownership; and *farm reform*, which deals with issues of restructuring of farms into individual land holdings. Land reform, together with farm restructuring, set an agenda for the transformation of socialist farms in CIS into hopefully a more efficient farm structure with a clear market orientation

## Starting conditions and transition desiderata

Catching up with market economies (and perhaps even overtaking them) was always an important consideration for Soviet planners. It is enough to recall Khrushchev's outbursts in the 1950s and the 1960s in which he threatened to "bury" the West—economically if not militarily. The transition to a market-oriented system, emulating the economic order of the more successful capitalist countries, was regarded in the early 1990s as a new strategy to cure the chronic inefficiency of the socialist economic system in general, and socialist agriculture in particular. Because of the broadly common organizational and institutional heritage in agriculture, efficiency considerations suggested a fairly uniform conceptual framework for agricultural reform in all CIS countries (Lerman, Csaki, and Feder 2004).

A strategy of agricultural transition aiming to improve the efficiency and productivity of agriculture in CIS required the replacement of institutional and organizational features of the former command economy with attributes borrowed from the practice of market economies. The ideal transition desiderata for key areas of economic activity can be summarized as follows:

- Production: eliminate centrally prescribed targets and allow free decisions
- Prices: eliminate central controls and liberalize prices
- Finance: eliminate state support and debt write-offs, institute hard budget constraints
- Inputs, sales, processing: eliminate state-owned monopolies, privatize and demonopolize

[2] There were 15 republics in the USSR, or the former Soviet Union. The three Baltic republics (Estonia, Latvia, Lithuania) adopted a European orientation immediately with the dissolution of the Soviet Union in 1990. The remaining 12 republics formed the CIS. Of these 12 republics, 10 are full members (Armenia, Azerbaijan, Belarus, Moldova, Russia, Kazakhstan, Kyrgyzstan, Tajikistan, Ukraine, and Uzbekistan), one (Turkmenistan) regards itself as an associate member, and Georgia withdrew from the CIS in 2008 in the wake of the South Ossetia conflict.

- Ownership of resources: go from state and collective ownership to private ownership of land and other productive resources
- Farming structure:
    - downsize large-scale farms;
    - individualize farming structure;
    - eliminate sharply dual land concentration;
    - ensure level playing field for farms of all organizational types

The conceptual framework for transition in agriculture envisaged a transformation from collective to individual or family farming as the ultimate goal, because both theory and world experience suggested that individual responsibility and direct accountability would cure free riding, shirking, and moral hazard that make collective organizations generally inefficient. Property rights associated with private ownership of land (or with secure tenure) would induce farmers to put a greater effort into production. Individual farmers, once established as independent entities, would engage in land-market transactions to optimize the size of the holdings given their management skills and availability of resources. Transferability of use rights would facilitate the flow of land from less efficient to more efficient producers, or more concretely from passive landowners (such as pensioners in an aging population) to energetic active operators.

Change in the ownership of resources (land reform proper) and change of farming structure (restructuring of traditional collective farms) encompass the main components of agricultural transformation. Land reform in the context of transition implies establishment of private property rights in land in all CIS countries (as well as the Baltic states), where land was nationalized at various times since the Bolshevik Revolution in 1917. Farm restructuring implies transformation of large-scale collective and state farms to operations based on market-oriented principles, including emergence and proliferation of individual farms alongside corporate organizational forms.

**Land reform in CIS**

In the CIS countries, agricultural land had belonged to the state since 1917 and the first step was to legalize private ownership of agricultural land. The necessary legislation has been passed in most of the countries. Of the 12 CIS countries, only four still maintain the traditional Soviet policy of exclusive state ownership of agricultural land (Tajikistan, Turkmenistan, Uzbekistan, and partially Belarus). While experts – both Western and local – are heatedly debating the success or failure of land privatization in CIS, there can be no doubt that the process so far has achieved at least one major goal: in most countries, it has eliminated the monopoly of the state in land ownership and produced a dramatic reduction in the share of agricultural land directly owned or managed by the state (**Table 2.1.1**).

**Table 2.1.1.** Share of state-owned agricultural land in CIS countries that recognize private land ownership (in percent)

| Country | Pre-1990 | 2000 | Legal attitude to private land ownership |
|---|---|---|---|
| Russia | 100 | 35 | |
| Ukraine | 100 | 31 | |
| Moldova | 100 | 17 | |
| Georgia | 100 | 78 (54 excluding pastures) | Potentially all land |
| Armenia | 100 | 67 (35 excluding pastures) | |
| Azerbaijan | 100 | 70 (one-half of this common municipal-owned land) | |
| Belarus | 100 | 93 (potentially 84) | Household plots only |
| Turkmenistan | 100 | 100 | Constitution recognizes private ownership, but land is absolutely non-transferable |

Source: Lerman et al. (2004).

Landownership statistics (as opposed to land use statistics) are notoriously difficult to obtain for CIS countries. **Table 2.1.1** was laboriously assembled from scattered pieces of information in various sources and it could not be updated beyond 2000. For instance, Georgia, one of the trailblazers of land reform in CIS, has disbanded the established statistical monitoring mechanisms for land and no longer has any aggregate landownership statistics: the land-management organs can only identify a specific cadastral number as state owned or privately owned. Russia is an exception: the State Cadastre Agency publishes a phenomenally detailed report on status and use of land in the Russian Federation (see, e.g., Rosreestr 2013), which has been used to calculate the share of privately owned agricultural land shown for selected years in **Figure 2.1.1**. Landownership data also exist in Ukraine, but they are not readily accessible: the landownership curve for Ukraine in **Figure 2.1.2** is based on information obtained in a private communication. The striking feature is that in both countries the share of privately owned agricultural land in 2011-2013 is about 70%. The dramatic increase in privately owned land observed in Ukraine after 2000 (**Figure 2.1.2**) is the outcome of President Leonid Kuchma's 1999 reform, which greatly accelerated the distribution of physical plots to rural residents (Lerman et al. 2007).

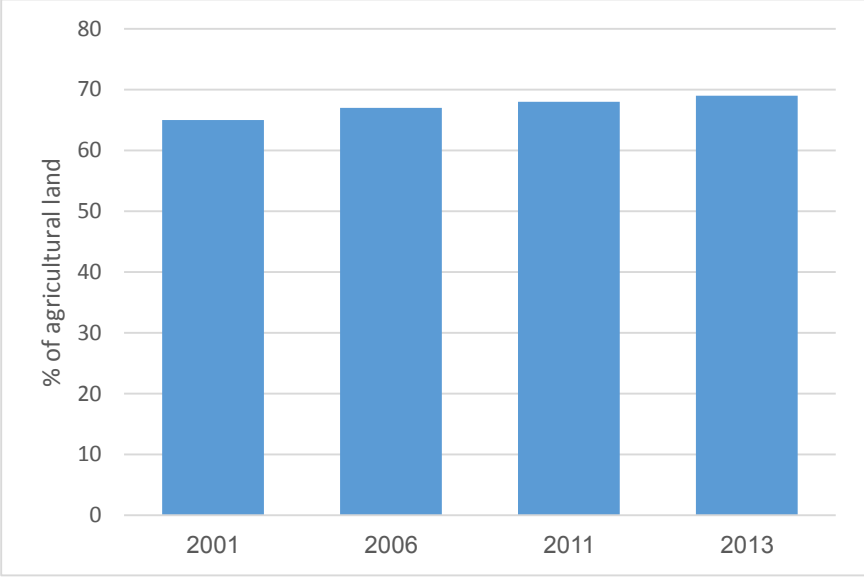



**Figure 2.1.1.** Russia: share of privately owned agricultural land 2001-2013. Source: Rosreestr (various years)

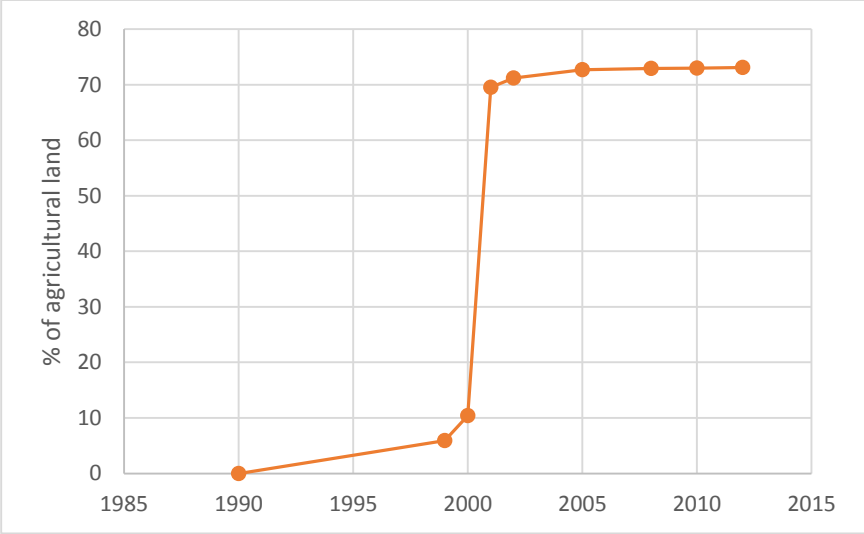



**Figure 2.1.2.** Ukraine: share of privately owned agricultural land 2001-2011. Source: N. Pugachev (private communication).

Once the land privatization legislation had been put in place, collective farms were transformed into corporate farms on private land (joint stock companies, partnerships, etc.) and land shares were distributed within these farms to workers and to local rural population. This was a kind of "redistributive land reform" based on paper certificates of entitlement, not on physical plots. The new corporate farms continued to operate on collectively owned ("shared") and collectively farmed land, although the share owners had the right to exit with a physical plot of private land for individual farming.

While this mechanism of land-share assignment was followed in most of CIS countries, two exceptions can be noted. The first was the South Caucasus, where collective and state farms were physically disbanded and actual plots of land were distributed early on, from 1992 in Armenia and then in Georgia, and from 1996 in Azerbaijan. No land shares were needed. The second exception was Central Asia, where land formally remained state property long after its redistribution began in 1991-1992 throughout the rest of CIS. Uzbekistan and Turkmenistan, where agricultural land remains state property to this day, retained collective and state farms and distributed state leaseholds ("use rights") rather than land shares. Kazakhstan, Kyrgyzstan, and Tajikistan distributed land shares to collective farm workers, though they initially left agricultural land under state ownership. Kyrgyzstan and Kazakhstan subsequently legalized private ownership of land – in 1998 and 2003, respectively; Tajikistan made land shares transferable after 2009 in response to pressure from the World Bank and other international donors (Resolution 406, 2009).

Since the distribution of land shares to corporate farm workers often did not change the farm management, the new "private" corporate farms operated much like the socialist collective farms (with their associated problems). Further changes were needed. Thus, Kyrgyzstan, Tajikistan, Moldova, and Ukraine had converted land shares into titles to land parcels or to actual land parcels by the end of the 1990s (Lerman and Sedik 2008; Lerman et al. 2007). A similar mechanism for converting land shares into private plots is well established in Russia, but it is plagued by high transaction costs and bureaucratic difficulties (Shagaida and Lerman 2008; see also Shagaida and Lerman, chapter 2.2 in this volume). In Kazakhstan, the June 2003 Land Code annulled the permanent rights associated with land shares and forced the share-holders either to acquire a land

plot from the state (by outright purchase or by leasing) or to invest the land share in the equity capital of a corporate farm, thus effectively losing ownership rights.

Landowners do not always cultivate their privatized land. Some land privatized in land shares remains unclaimed or abandoned, mainly for administrative reasons. Some landowners are unable to cultivate their land because of age and health reasons. Some owners are qualified for more profitable jobs elsewhere and exit agriculture. These factors create a supply of land for leasing (if not outright selling) from landowners to other users and producers: a potential for the emergence of land markets. For these reasons, we generally focus on land use rather than landownership: we speak of individualization of land use, as distinct from land privatization.

## Farm reform

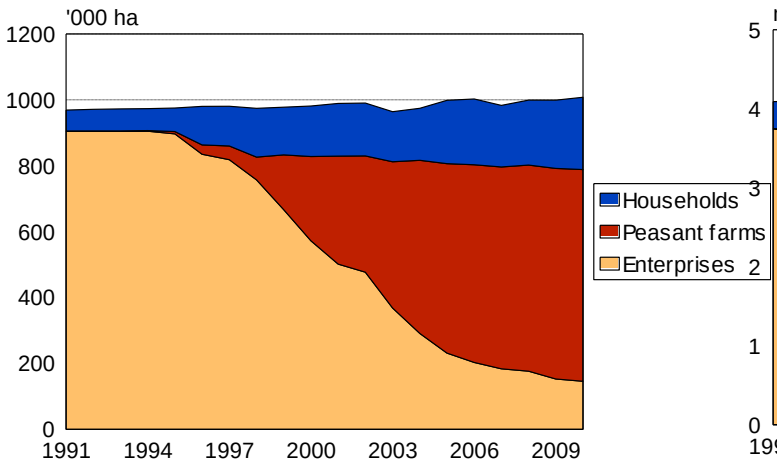
A second component of agricultural policy reform was farm restructuring, in which the individualization of landholdings – transition from corporate to individual land use – was critical. Clear sub-regional differences are apparent in farm policy in CIS, as indicated by the depth (percent of sown land in individual farms) and timing (watershed dates) of the individualization of landholdings. These differences have resulted in substantially different levels of recovery from the transition recession since the turnaround date (**Table 2.1.2**).

**Table 2.1.2.** Sub-regional differences in farm policies and agricultural recovery in CIS countries

| | Central Asia | Caucasus | Russia, Western CIS |
|---|---|---|---|
| **Farm policies** | | | |
| Dominant farm organizational form | Individual, corporate | Individual | Corporate, individual |
| Land sown in individual farms (%, 2007) | 71 | 97 | 34 |
| Share of gross agricultural output produced on individual farms (%, latest year) | 88 | 97 | 62 |
| Watershed date for individualization | 1996-98 | 1993 | None |
| **Agricultural output recovery*** | | | |
| Turnaround year | 1998 | 1993 | 1999 |
| Production relative to 1991 level (%, latest year available) | 105 | 114 | 76 |

* Gross agricultural output (GAO).
Source: Computed from official country statistics.

The dramatic shrinking of the corporate farm sector and the strong showing of the individual sector (household plots and peasant) in Central Asia is illustrated in **Figures 2.1.3 and 2.1.4**, which present the distribution of arable land by farm type in Tajikistan and Uzbekistan. Although land is state owned in these countries and the political regimes tend to authoritarian (and thus cannot be regarded as overly open to reform), the individual sector completely displaced the corporate sector as the dominant player in agriculture. In Russia and Ukraine, we also observe a clear pattern of increasing individualization, but the corporate sector continues to dominate agriculture, especially in Russia (**Figures 2.1.5 and 2.1.6**).



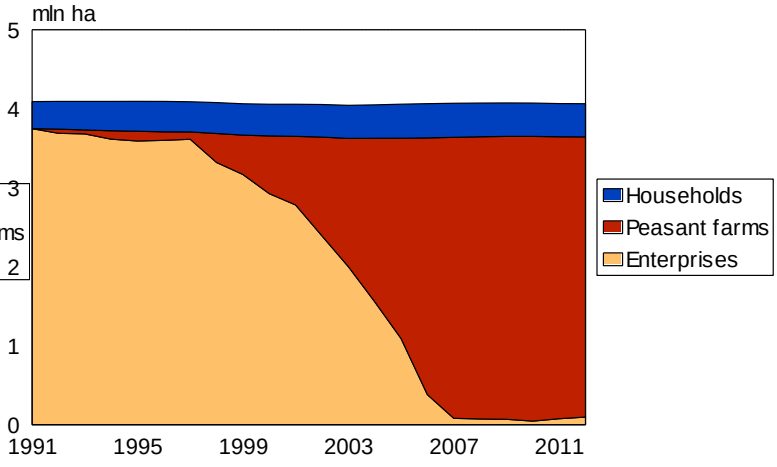
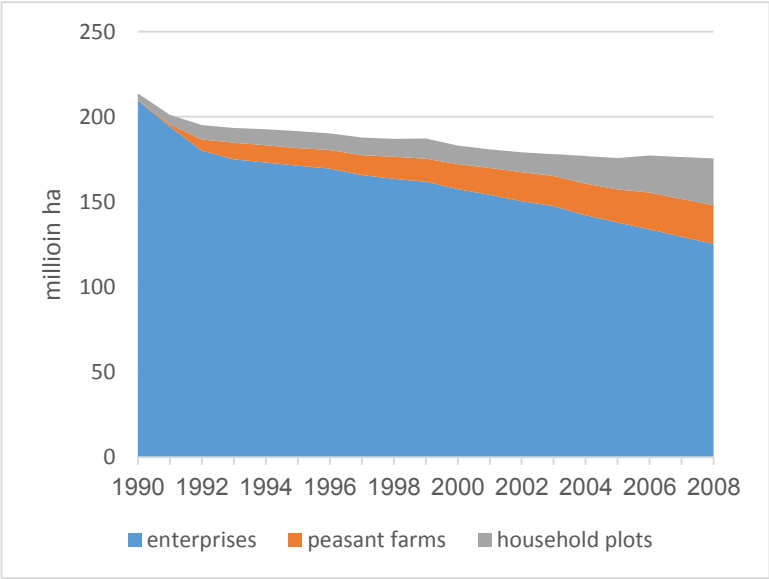




**Figure 2.1.3 (left panel).** Tajikistan: Shift of arable land from corporate to individual farms 1991-2010). Source: official country statistics.
**Figure 2.1.4 (right panel).** Uzbekistan: Shift of arable land from corporate to individual farms 1991-2010). Source: official country statistics.



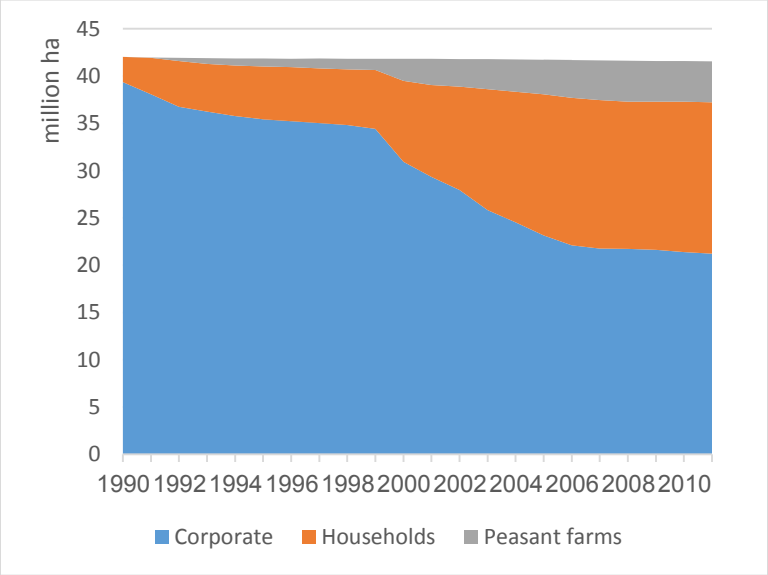




**Figure 2.1.5 (left panel).** Russia: corporate farms retain dominant position in land use 1991-2011. Source: official country statistics.
**Figure 2.1.6 (right panel).** Ukraine: corporate farms retain dominant position in land use, despite the observed shift in land to individual farms (1991-2011). Source: official country statistics.

The shift of the main productive resource—arable land—from enterprises to the individual sector has resulted in a significant increase in the share of individual farms in agricultural production. At the end of the Soviet era individual farms (the traditional household plots at that time) contributed one-third of Gross Agricultural Output (GAO) in Central Asia and agricultural enterprises produced the remaining two-thirds; in 2007, individual farms (household plots and peasant farms combined) contribute 88% of GAO and the share of the enterprises had shrunk to 12%. **Table 2.1.3** summarizes the data on the dramatic shift of land and production to the individual sector between 1990 and 2007

in the Central Asian states. For comparison it shows Azerbaijan as a representative of the Trans-Caucasus region, where individualization has been comparable to that in Central Asia, and also Russia and Ukraine, where individualization lags far behind both Central Asia and Trans-Caucasus.

**Table 2.1.3.** Changing role of individual farms 1991-2010

| | Share of arable land, % | | Share of GAO, % | |
|---|---|---|---|---|
| | 1991 | 2010 | 1991 | 2010 |
| Kazakhstan | 1 | 39 | 32 | 71 |
| Kyrgyzstan | 3 | 76 | 44 | 98 |
| Tajikistan | 7 | 86 | 36 | 91 |
| Turkmenistan | 5 | 93 | n.a | n.a. |
| Uzbekistan | 8 | 98 | 33 | 98 |
| *Average Central Asia* | *5* | *78* | *36* | *90* |
| Russia | 2 | 31 | 24 | 56 |
| Ukraine | 7 | 49 | 27 | 60 |
| *Azerbaijan* | *4* | *84* | *35* | *95* |

Source: Lerman et al. (2004), updated from official country statistics.

## Agricultural recovery and individualization in CIS

The transition from central planning to a market-oriented economy involved breaking up an established economic system. This inevitably caused initial disruption and led to sharp declines in the economy as a whole and in agriculture in particular. In CIS, the steep decline continued until 1998, when the CIS countries as a group bottomed out at 75% of the 1992 output. Despite the initial transition decline, the CIS countries generally persevered in their reform efforts, which eventually produced a turnaround leading to recovery of agricultural growth. **Figure 2.1.7** takes a disaggregated view of the recovery, showing three separate decline and growth curves for the agricultural output in the three geographical regions from **Table 2.1.2** – Central Asia, South Caucasus, and European (or Western) CIS.

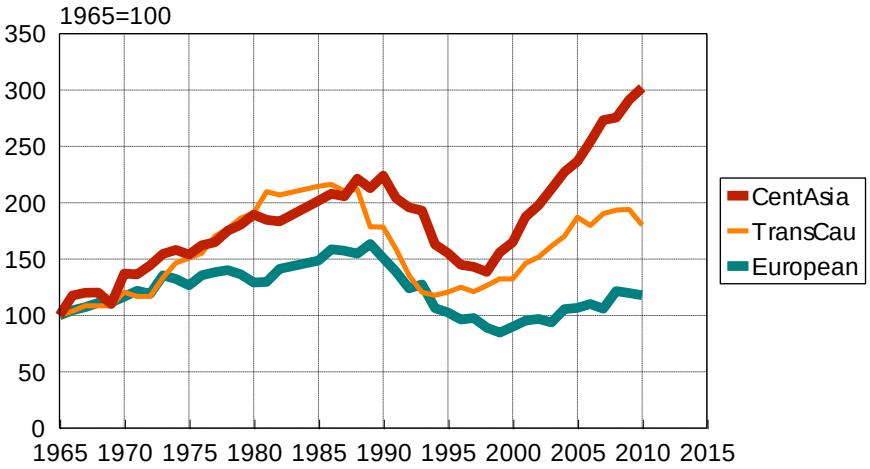



**Figure 2.1.7.** Regional agricultural growth in CIS 1965-2010: average GAO index for three regional groupings of CIS countries. Source: based on official statistics.

There is a traceable link between the beginning of recovery (the turnaround year in **Table 2.1.2** and the absolute bottom point in **Figure 2.1.7**) and the implementation of significant individualization reforms in CIS. The countries in the South Caucasus individualized land early and decisively, and the turnaround came already in 1993 (Transcaucasia in **Figure 2.1.7**, orange curve). The Central

Asian countries began individualization much later, between 1996 and 1998, and agricultural growth in the region as a whole resumed in 1998 (red curve in **Figure 2.1.7**). As we see in **Figures 2.1.3 and 2.1.4** for Tajikistan and Uzbekistan, Central Asian countries achieved remarkable progress with individualization of farming structure in the past few years (despite continued state ownership of agricultural land in Uzbekistan, Turkmenistan, and Tajikistan) and this progress is apparently responsible for the robust growth in the region. The laggards in the date and degree of individualization have been Russia, Belarus, and Ukraine (**Figures 2.1.5 and 2.1.6**). In fact, Russia and Belarus have not yet appreciably individualized landholdings to this date, which may account for the sluggish recovery in agricultural production in the European CIS (green curve in **Figure 2.1.7**).

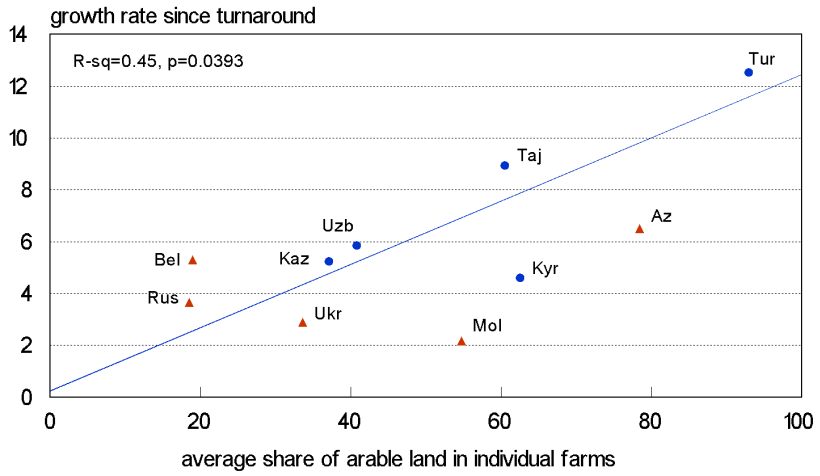



**Figure 2.1.8.** Growth of agricultural output since turnaround is faster for countries with greater individualization of arable land. Source: Lerman (2010).

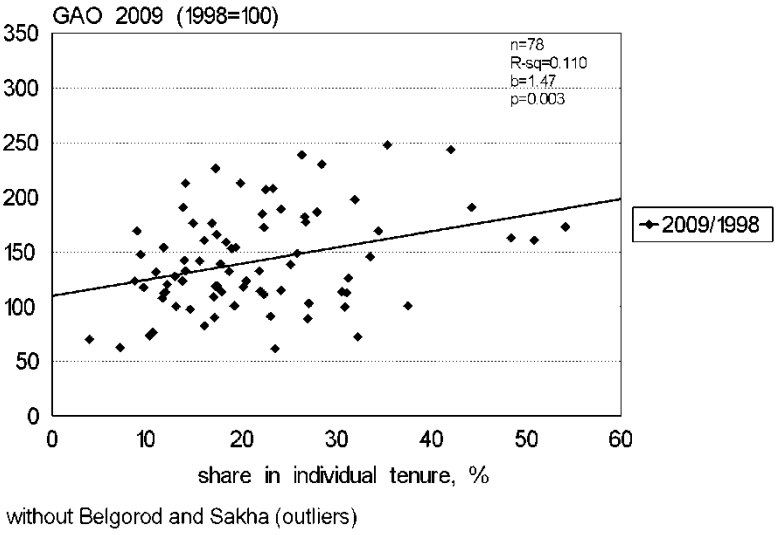



**Figure 2.1.9.** Growth in agricultural output since 1998 is faster in Russia's regions with greater individualization of land. Source: Lerman and Sedik (2013).

Further direct evidence shows that individualization has a positive effect on agricultural growth. Among the CIS countries, those with more land in individual use have achieved faster growth since the start of recovery (**Figure 2.1.8**). In Russia, a similar relationship between agricultural growth

and individual land use is observed across the 80 provinces (**Figure 2.1.9**). This seems to explain why recovery in Russia and Western CIS lags behind the recovery in Central Asia and South Caucasus: individual land use in Russia and Western CIS is at a substantially lower level than in the rest of CIS.

Individualization also has a positive effect on agricultural productivity, which measures the value (or aggregate quantity) of agricultural output per unit of land ("land productivity") or per agricultural worker ("labor productivity"). Land productivity in many CIS countries is observed to be highest in household plots – the classical example of an individual farm with most pronounced family-driven incentives and personal accountability (Lerman 2010; Lerman and Sedik 2009, 2010; Lerman et al. 2007; Lerman and Sedik 2013). Labor productivity, similarly to agricultural growth, is observed to increase with the share of agricultural land in individual use across Russia's 80 provinces (Lerman, Csaki, and Feder 2004: 186-187; Lerman and Schreinemachers 2005). A simplistic conclusion about higher land productivity in the individual sector emerges from **Table 2.1.3**, where the share of individual farms in agricultural output (GAO) across all countries is higher than their share in land.

**Agricultural reform and poverty mitigation in CIS**

It is difficult to establish a rigorous causal relationship between land and farm reform and the reductions in poverty that have been observed in CIS countries since 2000 (Alam et al. 2005), because there are no comparable rural poverty assessments spanning the period of land reform that specifically examine landholdings over time. Studies of the connections between land and farm reform and rural welfare rely on cross-section survey evidence on landholdings and farm incomes.

Still, it is clear that land and farm reforms in CIS countries have helped reduce rural poverty in two respects. First, they have increased household assets via one-off transfers of land, livestock, and farm machinery from corporate farms to households. Farm survey data from many CIS countries show a positive correlation between family landholdings and incomes – both total family income and more importantly income per capita (Lerman et al. 2007; Lerman and Cimpoies 2007; Lerman 2008; Lerman and Sedik 2010). Second, asset transfers from collective and state farms to individual farms increased agricultural productivity (as noted above) and specifically raised crop yields (Dudwick, Fock, and Sedik 2007). Higher productivity and higher yields increase farm production and thus improve family welfare both directly – through higher consumption of home-grown products, and indirectly – through additional cash income from sales of surplus products.

This highlights commercialization, or sale of farm products, as another important factor – alongside land holdings and productivity – that positively affects rural incomes. Survey evidence convincingly shows that farm sales increase family incomes and also improve the subjective perception of family wellbeing. On the other hand, families with more land tend to be more commercially oriented, selling a greater share of their output. Commercialization completes the loop between land reform and rural family incomes: land reform shifts land to individual farms and raises their incomes through increased production (part of which is consumed in kind by the family); more land and greater production stimulate rural families to sell more of their output; greater sales contribute

additional cash that also raises family incomes.[3] This double effect of more land leading to more production and at the same time to greater commercialization is demonstrated in the outcomes of the recent World Bank/FAO land consolidation project in Moldova (2007-2009): consolidation increased the farm sizes and reduced the number of parcels, while the participating farms increased their output and their commercial capacity, achieving higher income, as evident from higher mean gross margins and more investments (Moldova 2011).

**Policy measures to improve rural incomes**

Agricultural reform across the region produced tens of millions of small family farms in place of tens of thousands of large-scale collectives and production cooperatives. **Table 2.1.4** illustrates how small the average farm is in CIS. However, these small farms are not pure subsistence operations: surveys show that between 60% and 80% of small farms in CIS sell some of their output, and farm sales average 30%-50% of the output in these "semi-commercial" farms. Yet smallholders in CIS, like small farms all over the world, face what is sometimes described as the "curse of smallness": low incomes due to limited asset base and difficulties with access to market channels for sales and services.

**Table 2.1.4.** Average size of family farms in some CIS countries

| | Average farm size, hectares |
|---|---|
| Armenia | 1.38 |
| Georgia | 0.96 |
| Azerbaijan | 1.86 |
| Kyrgyzstan | 3.80 |
| Tajikistan | 3-5 |
| Turkmenistan | 4-5 |

Source: Farm-level surveys 2000-2010.

In view of the links between land holdings, commercialization, and family income, it is important to consider what policy measures can be applied to enlarge family land holdings and to encourage smallholder farms to sell more of their output. It is, of course, also important to focus on options for increasing productivity, as higher productivity will improve rural livelihoods by enabling smallholders to produce more with limited resources.

Two main policy measures can be applied to enable enlargement of small individual farms (from 0.5 hectares to 5 or even 10 hectares, say). The first policy measure is to implement another wave of land distribution to smallholder farms, continuing the process of land reform that originally led to dramatic enlargement of household plots and creation of new peasant farms. Additional land can be distributed from the state reserve or from the holdings of the less productive corporate farms (agricultural enterprises). There are large reserves of unused state-owned land in many CIS countries (with the possible exception of Central Asia). In addition, large areas of agricultural land

[3] Policy measures to increase commercialization and productivity typically focus on improving the access of small farms to specific market services, such as channels for marketing farm products and purchasing farm inputs, farm machinery services, veterinary and artificial insemination services, extension services, and credit services for small farms. These measures are not directly related to land and farm reforms and are not discussed in this article. Best-practice world experience suggests that farmers' service cooperatives provide the most effective way of improving the access of small farmers to market services (see Lerman and Sedik 2014).

(in some countries more than 50% of total agricultural area) are managed inefficiently by large corporate farms, which achieve productivity levels that are substantially lower than the productivity of individual farms. Governments should channel the unused land from the state reserve and the underutilized land from large agricultural enterprises to more productive use by distributing these lands to small family farms. It is therefore sad to note that Georgia has opted for an opposite policy: the government recently cancelled the existing leases of smallholder farms to state land – one of the proven market mechanisms for small farm enlargement – and began auctioning reserve land to outside investors. Officials are very pleased with the cash revenues from this process and argue in justification that it will raise Georgia's agriculture to higher levels of commercial production. In this way they completely disregard the interests of the large rural population and ignore the hard evidence of greater productivity of smallholder farms, which make a crucial contribution to both sectoral growth and rural livelihoods.

The second policy measure that may lead to enlargement of smallholdings is encouragement of land market development. Land markets provide a mechanism that allows land to flow from passive or inefficient users to active, efficient users and thus leads to farm size adjustment. The basic prerequisite for land market development is to allow transferability of land ownership and land use rights: this has been accomplished as part of the reforms in most CIS countries, but it is still not the case in parts of Central Asia. Another prerequisite for the development of land transactions is registration and titling of all privately owned plots. Modern registration and titling systems exist in all CIS countries, but the "titling coverage" is generally limited, apparently due to complex bureaucratic procedures and high costs. Simple and transparent registration procedures should be instituted, with minimum transaction costs, to encourage rural landowners to register their land and obtain legal titles (Shagaida and Lerman 2008; see also Shagaida and Lerman, chapter 2.2 in this volume).

As another policy measure, governments should guarantee contract enforcement and rule of law. This is crucial *inter alia* for the support of land leasing, which appears to be even more important than buying and selling of land as a mechanism for the enlargement of smallholdings. **Table 2.1.5** demonstrates that land leasing indeed works to enlarge small farms, and the example of Moldova shows that land leasing becomes more widespread over time.

**Table 2.1.5.** Lease markets work to adjust farm sizes in CIS countries

| | Farms with own land only, ha | Farms with leased land, ha | Percent of farms with leased land |
|---|---|---|---|
| Armenia | 1.3 | 2.6 | 14 |
| Georgia | 0.7 | 8.7 | 2 |
| Azerbaijan | 1.8 | 15.7 | 7 |
| Kazakhstan | 160 | 272 | 11 |
| Tajikistan | 18 | 144 | 3 |
| Moldova | | | |
| 1997 | 2.8 | 16.9 | 6 |
| 2003 | 3.8 | 11.6 | 21 |
| 2005 | 3.7 | 9.5 | 28 |
| Ukraine | 53 | 227 | **53** |

Source: Lerman, Csaki, and Feder 2004; Lerman et al. 2007; Lerman and Sedik 2010.

Land consolidation programs are often promoted as a vehicle for farm enlargement. Effective consolidation programs are driven by market mechanisms, i.e., free negotiations and mutual agreements between owners of fragmented plots (FAO 2010). Examples of such market-driven consolidation efforts are provided by the World Bank/FAO project in Moldova (2007-2009) or the latest USAID project in Kyrgyzstan, which heavily relies on the Moldova experience. In Moldova, the consolidation project reduced the number of parcels by 23% (from 7,220 initially to 5,515 parcels after the completion of the project), thus significantly increasing the average parcel size. The consolidation activity furthermore encouraged exits of elderly and inactive landowners from agriculture, leading to an increase of 32% in the average size of a farm holding (Moldova 2011).

"Spontaneous" enlargement of individual farms, i.e., enlargement without special consolidation programs, is observed in recent years in Ukraine, where the shift of land from corporate farms to the individual sector has led to substantial enlargement of both household plots and peasant farms without government intervention. Household plots increased in size from less than 0.5 ha in the early 1990s to more than 3 ha in 2011, while peasant farms increased in the same period from less than 25 ha to more than 100 ha.

An example of farm enlargement through brute-force government intervention is observed in Uzbekistan. Up to 2007 farm sizes in Uzbekistan followed a "spontaneous" enlargement pattern, as in Ukraine, with average size of peasant farms trebling from less than 10 hectares in the early 1990 to about 30 hectares in 2004-2007 (comparable to the average farm sizes in Ukraine and Russia). This "spontaneous" enlargement trend was broken in 2008 when the government adopted its "farm size optimization" policy, forcing small peasant farms to merge into larger, allegedly more efficient, units by administratively revoking their lease contracts. This phenomenon is shown in **Figure 2.1.10**, where the number of peasant farms in Uzbekistan decreased precipitously after 2008, while the average farm size increased abruptly through mergers from 30 ha in 2007 to more than 80 ha in 2012.

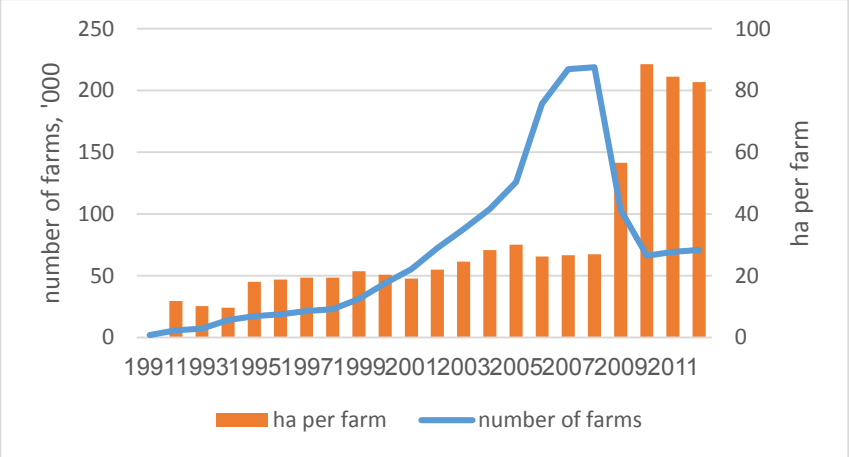



**Figure 2.1.10.** Development of peasant farms in Uzbekistan 1991-2012: number and average size. Source: official country statistics.

An opposite trend is observed in Tajikistan, where joint efforts by the World Bank and the government of Tajikistan have led to breakup of relatively large "collective" (multi-family) peasant farms after 2007. The "collective" peasant farms were judged to be too close to corporate farms in their organizational profile and were encouraged to split into smaller single-family farms by titling land to individuals. The number of farms increased sharply after 2007, while the average farm size

naturally decreased, after an initial phase of "spontaneous" growth and stabilization between 1995 and 2007 (**Figure 2.1.11**). There does not seem to be a coherent policy of farm enlargement across CIS and the changes in farm sizes are determined by local interests and conditions in each country.

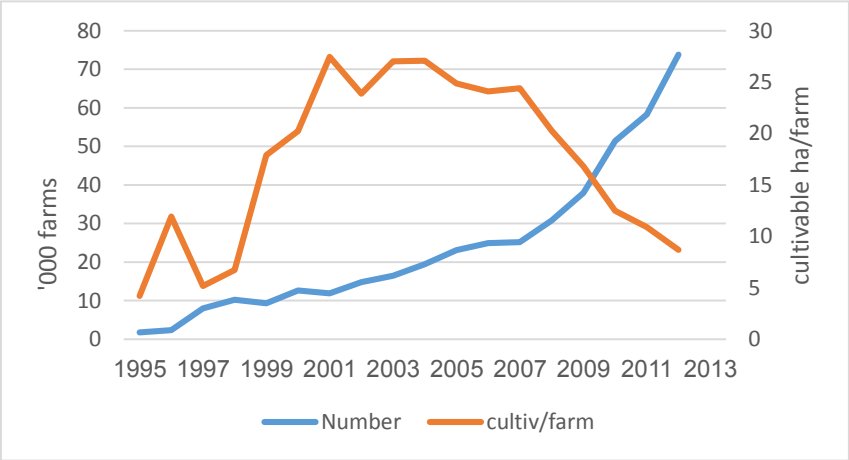



**Figure 2.1.11.** Development of peasant farms in Tajikistan 1991-2012: number and average size.
Source: official country statistics.

The main issue in designing policies to improve rural incomes is the attitude of the government toward small farms. It has to undergo a radical change from the prevailing neglect and disdain to full recognition of the huge role that small farms play in agriculture and in rural well-being. Government officials and decision makers have to acknowledge the contribution and importance of small farms, abandon the traditional preference for large farms, and focus on policies that ensure a supportive market environment for successful operation of the small-farm sector instead of continuing the unsuccessful attempts to guide production decisions. This change of attitude requires a strong political will at all levels of government, starting with clear direction from the very top.

## Conclusion

Small family farms have become the backbone of post-transition agriculture in both CEE and CIS. They may not control most of the land, but they nevertheless dominate agricultural production due to their higher productivity. Recovery of agricultural growth is clearly seen to be associated with individualization of farming – the transition from exclusive dominance of large corporate farms to prevalence of substantially smaller family farms that exist in a wide range of sizes. The new farming structure requires development of a new market infrastructure for farm services – marketing, input supply, machinery, extension. Government policies should be designed to meet this challenge: government's new role is to create a supportive service environment for family farms.

## References

Alam A, Murthi M, Yemtsov R, Murrugarra E, Dudwick N, Hamilton E, Tiongson E (2005) Growth, poverty, and inequality: Eastern Europe and the former Soviet Union, Washington DC: World Bank.

Deininger K (2003) Land policies for growth and poverty reduction. World Bank Research Report, Washington, DC: World Bank.

Dudwick N, Fock K, Sedik D (2007) Land reform and farm restructuring in transition countries. The experience of Bulgaria, Moldova, Azerbaijan and Kazakhstan, World Bank Working Paper No. 104, Washington, DC: World Bank. http://go.worldbank.org/2W17PBZ490

FAO (2010) Voluntary guidelines on the responsible governance of tenure of land, fisheries and forests, first draft, Rome: Food and Agricultural Organizations of the UN.

Lerman Z (2008) Agricultural development in Central Asia: A survey of Uzbekistan, 2007-2008. Eurasian Geography and Economics 49(4): 481-505.

Lerman Z (2010) Agricultural recovery and individual land tenure: Evidence from Central Asia. In: Ferto I, Forgacs C, Jambor A (ed) Changing landscape of European agriculture: Essays in honour of Professor Csaba Csaki, Budapest: Agroinform.

Lerman Z, Cimpoies D (2006) Land consolidation as a factor for rural development in Moldova. Europe-Asia Studies 58(3): 439-455.

Lerman Z, Schreinemachers P (2005) Individual farming as a labor sink: Evidence from Poland and Russia. Comparative Economic Studies 47(4): 675-695.

Lerman Z, Sedik D (2008) The economic effects of land reform in Tajikistan. FAO Regional Office for Europe and Central Asia Policy Studies on Rural Transition No. 2008-1, Budapest: FAO Regional Office for Europe and Central Asia. http://www.fao.org/fileadmin/user_upload/Europe/documents/Publications/Policy_Stdies/Tajikistan_en.pdf.

Lerman Z, Sedik D (2009) Agricultural recovery and individual land tenure: Lessons from Central Asia. FAO Regional Office for Europe and Central Asia Policy Studies on Rural Transition No. 2009-3, Budapest: FAO Regional Office for Europe and Central Asia. http://www.fao.org/fileadmin/user_upload/Europe/documents/Publications/Policy_Stdies/AgDevelopmentCA_en.pdf.

Lerman Z, Sedik D (2010) Rural transition in Azerbaijan, Lanham, MD: Lexington Books.

Lerman Z, Sedik D (2013) Russian agriculture in transition. In: M. Alexeev and S. Weber (ed), Handbook of Russian economy, New York: Oxford University Press, pp. 514-543.

Lerman Z, Sedik D (2014) Cooperatives in Eurasia, Policy Studies on Rural Transition No. 2014-3, FAO Regional Office for Europe and Central Asia, Budapest.

Lerman Z, Csaki C, Feder G (2004) Agriculture in transition: Land policies and evolving farm structures in post-Soviet countries, Lanham, MD: Lexington Books.

Lerman Z, Sedik D, Pugachov N, Goncharuk A (2007) Rethinking agricultural reform in Ukraine, Studies on the agricultural and food sector in Eastern and Central Europe vol. 38, IAMO.

Moldova (2011) Impact assessment of the land re-parceling pilot project in 6 villages: Final report, Chisinau: AGREX.

Resolution 406 (2009) Resolution No. 406 of the government of the Republic of Tajikistan on implementation of additional measures to support agriculture in the Republic of Tajikistan as per Presidential decree No. 663, Dushanbe, 2 July 2009. Action plan annex, items 2 and 4.

Rosreestr (2013) The land fund of the Russian Federation as of 1 January 2013, Rosreestr, Moscow, pp. 349-350, 485-486 [in Russian].

Shagaida N, Lerman Z (2008) Land reform and development of land markets, in Lerman Z (ed), Russia's