

Revisiting Soviet Collective Agriculture: 20 Years after Restructuring

- 1. Soviet Collective Agricultural Operations & Decollectivisation Approaches**
 - 2. Post Soviet Farm Restructuring Implications**
 - 3. Post Soviet Farm Restructuring and Land Tenure In**
 - a) Baltic States – Estonia, Latvia, Lithuania**
 - b) Central Asian Republics – Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan**
 - c) Caucasus – Armenia, Azerbaijan, Georgia**
 - d) Slavic Heartland – Belarus, Russia, Ukraine**
 - e) The special case of Moldova/Transnistria**
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- 3. Conclusions**

Soviet Collective Agricultural Operations

Some 25% of Soviet Union citizens lived or worked in collective agriculture in 1990

Collective Farms served political and social objectives in addition to economic ones

- a) Organised around rural population centers to provide labour inputs
- b) Farm families could not migrate away from collective farms without state approved passport
- c) Collective provided social services, including subsidised utilities, medical care, etc.
- d) Collective farm manager key community economic and political leader

Implications of decollectivisation:

- a) Release large underemployed or unemployed rural labor force
- b) Loss of wide range of social services
- c) Loss of key rural administrative capacity
- d) Loss of administratively driven food processing and distribution system

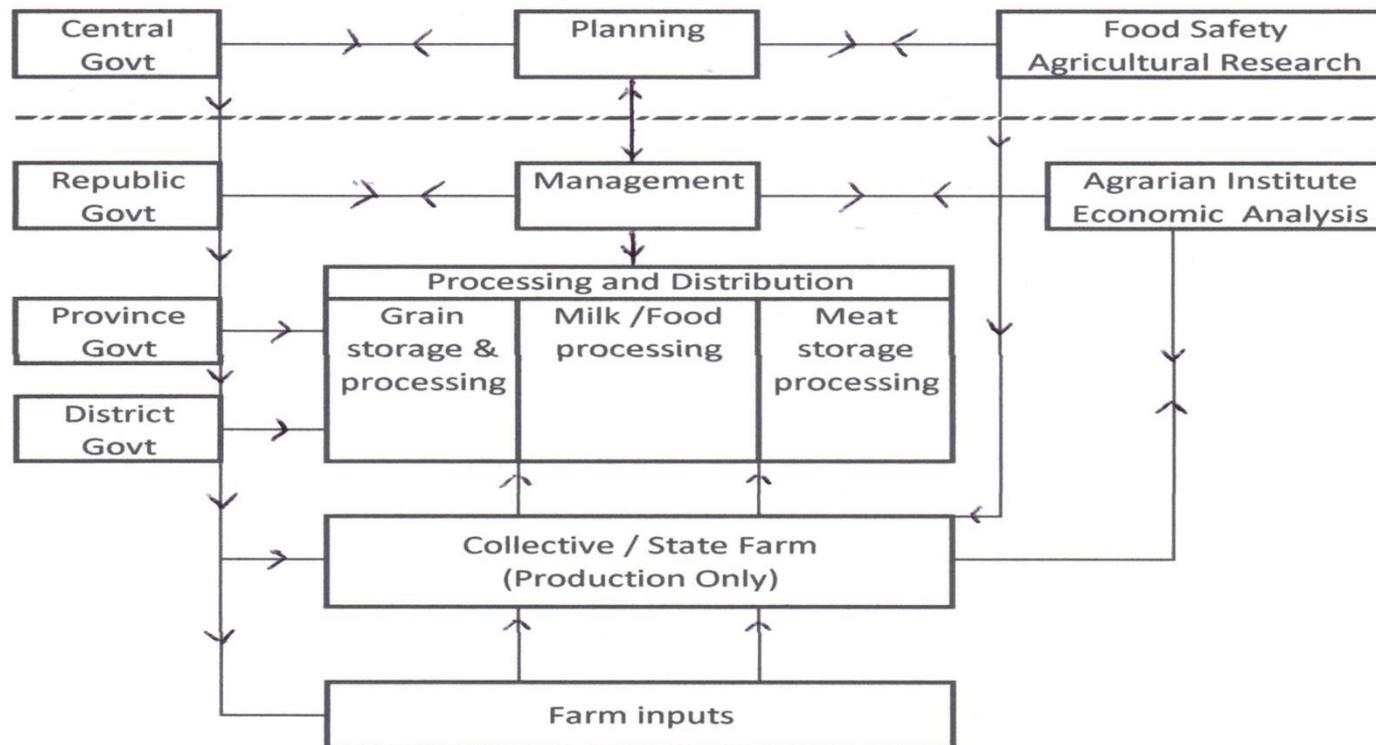
This situation paralleled underlying assumptions of Western development theory that described expanding non-farm economic growth drawing surplus labour from an inefficient agricultural sector

Therefore: The major post-Soviet agricultural and rural development questions become:

- a) How best to integrate the surplus rural labour force into the emerging post-Soviet economies?
- b) How best to replace lost rural social services?
- c) How best to develop production and marketing efficiencies existing in commercial agricultural sectors of developed market economies?

Collective Farms were supported by a complex system of input supply, food production, processing, and distribution based on administrative linkages between different governmental units as shown in the diagram.

USSR FOOD PRODUCTION AND DISTRIBUTION RELATIONSHIPS



Soviet Food Production System

- **Plans** developed at central level and implemented down
- **Collective farms** were production units only – targets set by central and republic government planning and implemented by province and district governments
- **Farm input delivery** managed at district levels based on decisions made at higher levels, but over time based on experience and farm production history
- **Collective farm inputs** distributed from District governments and delivered products to processing kombinats managed at district, province and republic levels based on received plans
- **Depreciation schedules** were one of the main driving forces of the soviet economy. Each piece of equipment provided with specific life cycle
- **Most farms operated on the principal of local self-sufficiency** – they provided food for consumption at district levels as well as for distribution beyond the farm resulting in productivity reduction

Soviet Food Production System (2)

- **Some specialization did occur** – for example Latvia specialized in cattle fattening and dairy products as it was the import point for feed grains, Moldova specialized in fruit and vegetable products and produced wine that was shipped in bulk for bottling in receiving country
- **Collective farms records** sent to Republic level Agrarian Institutes that analysed farm yields, total production, machinery and labor inputs; developed and aggregated farm statistics and equipment depreciation schedules for all equipment
- **Soviet production statistics** measured total production and not marketed production as in a market economy. Not directly comparable with market economy statistics that measured market sales
- **Agricultural Research Stations operated at Central and Republic levels** and engaged in crop and livestock breeding and development of new crop varieties and livestock improvement

Soviet Food Production System (3)

- **Food Quality and Safety standards** developed at central levels and implemented at Republic, Province and District levels
- **Collective farms generally had no processing facilities** and had no significant grain storage capacity; all grain moved at harvest to district and province managed storage and milling facilities.
- **Farm to market transportation costs were not charged to the farm account** and was not directly taken into account when planning farm crop and livestock production patterns
- **Food distribution system cannot be called marketing** – based on meeting basic per capita food intake levels times and distributed to population centers based on normative criteria

Pre- 1991 Soviet Decollectivisation Approaches

1989 Regulation supported leasing of collective farm land to:

- a) Collective farm technical specialists resigning their positions and leasing land to start own farming operations
- b) For the first time private farmers could hire employees
- b) State provided low interest rate loans to purchase equipment

This program was utilised mostly in:

- a) In Baltic states – Estonia, Latvia and Lithuania
- b) In Central Asian Republics - Kazakhstan and Uzbekistan, among others, supported formation of family farming units within existing collective farms

Post Soviet Farm Restructuring – Implications

CIS farm production dropped on average by 30% before recovering but individual commodity and country reductions were greater. Red meat and dairy production dropped by 50% in some countries. Northern countries suffered greater impact than southern countries.

Year	CIS	CEE
1990	100	100
1991	89	95
1992	85	82
1993	83	79
1994	73	76
1995	70	81
1996	67	81
1997	67	81
1998	65	80
1999	68	78
2000	68	75
2001	75	79
2002	75	79

Source: Lerman et al 2004

Country Agricultural Output Change 1990 - 1999

COUNTRY	AGR OUTPUT (%) 1990 - 95	AGR OUTPUT (%) 1995 - 99
Baltics		
Estonia	-41.4	-1
Latvia	-53.3	-7.8
Lithuania	-41.8	+13.2
CARs		
Kazakhstan	-44.5	-16.4
Kyrgyzstan	-38.2	+35.5
Tajikistan	-45.2	+31.4
Turkmenistan	-31.9	+34.1
Uzbekistan	-10.8	+11.9
Caucasus		
Armenia	+4.8	+9.4
Azerbaijan	-47.7	-2.4
Georgia	-38.5	+31.3
Soviet Heatland		
Belarus	-26.5	-12.4
Moldova	-34.9	-21.8
Russia	-32.8	-14
Ukraine	-34.2	-24.9

Source: Lerman et. al 2003

Post Soviet Farm Restructuring – Implications (2)

- **Loss of administrative input and food distribution channels** with no alternative market mechanisms and private sector supply companies to take up the slack - especially lack of fertiliser and fuel
- **Unable to replace depreciated equipment** – loss of Soviet industrial sector
- **No banking and financial services** – Market economy banking and financial systems were not available and state credit no longer available
- **Lost trading relationship history** - District and provincial level administrators knowledge of trading relationships were lost during transition. Inter-Republic distribution systems particularly affected
- **Some republics forced key staff to resign** - Baltic states for example

Post Soviet Farm Restructuring - Implications (3)

- **Other republics retained command approach** - govt administrators operated much as in the past. For example: Russia, Ukraine, Belarus and CARs. (Farm restructuring and land reform developed details in the next section)
- **Technical support staff linkages were lost** – Farm-to-processing-to-end user food product allocation managed by computer networks that no longer operated
- **Agricultural research stations were privatized** - losing central planning and funding facilities. Research specialists required to charge for support and services that were formerly free to farmers. Their self-interest led to opposition to importing new varieties from outside western sources
- **Republic level Food Quality and Safety Agencies** - no longer coordinated from Central level and lost quality control focus.

Farm Restructuring and Land Tenure Reform: Baltic Republics

- **Three Baltic Republics** sought to return land to pre WW II owners. Restitution land reform processes started in 1989 under newly enacted Soviet regulation; all took advantage of this regulation in 1989 authorizing formation of private farms with the right to hire employees. Restitution to heirs of 1940 land owners partially successful as not all heirs of pre-WW II owners could be located; all former kolkhoz members received land vouchers with right to sell or use land parcels.
- **Estonia** – only 25% of land reclaimed by heirs; remaining land initially leased to private farmers with gradual authorisation of land sale to minimize speculation; citizens only own farm land & most land recorded on the cadastre by 2009. Household plot owners provided use right ownership; country followed free market principles, did not subsidise inputs or farm prices; major rural to urban migration; individuals starting farming in 1989 with USSR state subsidised credits gained advantage over farmers starting out in 1992 and dominated commercial production by 1999; land sale and lease markets fully operational.

Farm Restructuring and Land Tenure Reform: Baltic Republics (2)

- **Latvia** – Only ethnic Latvians authorised to own land; almost all farm land initially leased by state until cadastre could be developed and conflicting land claims resolved; land registration process completed by 2012; household plot owners provided use right ownership; land sale and lease markets operational.
- **Lithuania** – All former kolkhoz members received three hectares land in private ownership and remaining land initially leased to private farms; new Constitution limited agr land ownership to natural persons until 1997 to minimize land speculation and accumulation of excessive land holdings; only Lithuanian citizens can own agr land; by 1999 only 37% of land was privatised, but the process is now complete; household plots provided with use right ownership; land sale and lease markets operational.

Farm Restructuring and Land Tenure Reform: Central Asian Republics

- **Kazakhstan** - Initial restructuring in 1989 under bankruptcy law; 1,700 collectives converted to 1,250 legal entities and some 6,700 individual farms; retained state agr land ownership with options to lease and sub-lease land under long term use rights to approved restructured farms supporting commercial farm development; eligible collective farm members provided with land share to start private farming; 90,000 new farm entities formed (85,000 peasant farms) but policy supported formation of large-scale corporate farms to maintain commercial production capacity; land can be sold, leased, bequeathed or pledged with state authorisation.
- **Kyrgyzstan** – Largely irrigated agriculture; land and property shares issued to eligible collective farm members to start private farms; retained state agr land ownership with restricted option to privatize; state land leased under use right tenure (with potential ownership rights) to approved restructured farms; 25% of arable land held by state for leasing to peasant farmers including rural households not with kolkhoz experience; household plots distributed to all rural families; less productive land provided to rural households free of charge; peasant and household farms manage 47% of available agricultural land; large farms dominate commercial production; land lease market functioning, land sale very restricted; land registration proceeding slowly.

Farm Restructuring and Land Tenure Reform: Central Asian Republics (2)

- **Tajikistan** – State land leased under long term use rights with focus on forming individual family farms; 65% population in agriculture; 1995 started multi-stage transition from collective to commercial family peasant farming; from 95% collective farm land management in 1990 to current 15% - with 20% in household plots & 65% commercial family farms; inherited command planning focus on wheat and cotton dismantled since 2007; full recovery from post-independence production decline by 2008; state managed land leasing; no land sale market.
- **Turkmenistan** - Largely irrigated agriculture; retained state agr land ownership; 2005 Land Code provided household plots (0.1 to 0.6 ha) to all rural residents for own crop production; long term use right ownership, but land cannot be sold; all collective farms converted to farmer associations in 1995; individual members lease land from state fund through association contingent on meeting state mandated crop targets for wheat and cotton; state subsidised credit provided; farmers not able to meet state targets have land reallocated to farms able to meet quotas; state sets input and targeted product prices and operates input supply and agro-processing firms with objective of attaining food self-sufficiency. Farmers with long-term lease tenure (ownership) can opt out of state order system but forfeit subsidies and other state support.

Farm Restructuring and Land Tenure Reform: Central Asian Republics (3)

- **Uzbekistan** - Largely irrigated agriculture; In 1990 family units encouraged to lease land from collective and state farms; retained state agr land ownership; state land leased under use rights up to 50 years, but not less than 30, to approved restructured farms with focus on supporting commercial family farms;; state managed land lease markets operating, no land sale market.
- With independence, state farms converted to cooperative form (shirkat) with individuals producing for own account; by 2005 shirkat was eliminated and individual commercial farms ranging from 10 to 200 ha.; command planning, management and pricing structure in place for wheat and cotton; state sets prices (on preferential basis) for fuel and lubricating materials; some agricultural inputs provided with state subsidized credit; land lease holders unable to meet state quotas become tenant farmers with leases transferred to more efficient farmers; expanding fruit and berry production encouraged using state managed credit programs; production recovered from immediate post-independence period with soviet level cotton export retained and wheat self-sufficiency obtained by 2003.

Farm Restructuring and Land Tenure Reform: Caucasus Republics

- **Armenia** – Collective farms dismantled with all rural households receiving land parcels with average size about 2 ha; Families with more than three members received larger parcels; field location determined by lottery; by 1992, 70% of agricultural land distributed to rural residents; remaining 30% leased primarily to smallholder commercial farms; initial policy did not promote formation of corporate commercial farms; most farm families augmented income with off-farm work; private farmers borrow money mainly from extended family members; have limited access to commercial banks; no restitution to former owners; ownership limited to citizens; land sale and land lease markets operational since 1994.
- **Azerbaijan** –All rural households and urban households of rural origin eligible to receive land parcels; collective farms dismantled in 1996 with emphasis on creating smallholder commercial farming operations; by 1999 rural population had increased to 33% from 31% in 1990; by 2002, about 80% of new farmers farmed land themselves, 10% leased land to others; the remaining was not farmed; ownership limited to citizens; land sale and lease market operating.
- **Georgia** – 60% of arable land distributed free of charge to rural households by land reform committees elected by village residents; 1.25 ha in lowlands and up to 5 ha in the highlands, remaining 40% leased to large, individual and restructured collective farms under 10 year leasehold; policy objective was creation of both subsistence and commercial sectors; land ownership limited to citizens; land lease and land sale markets operating.

Farm Restructuring and Land Tenure Reform: Soviet Heartland

- **Belarus** – No agr land privatization; a small number of collective farms restructured into JSCs; household plot size increased from 0.4 to 0.6 ha provided in permanent, inheritable use rights; state owns all agricultural land; state can authorise long-term leases to qualified Individuals and legal entities to expand commercial farming units; retained command administration - farms work to state plans and receive state subsidies. No private land lease or sale markets operational.
- **Russia** – 10% of collective farm land set aside in 1990 for distribution to rural residents, but only 1% distributed due to lack of interest by implementing local authorities; some 12 million former collective farm workers (most over 50 years of age) received conditional land shares; for a limited time they could withdraw from collective farm and start farming or could lease or “sell” (claim land share value) to restructured farms, but in the process lost future share access rights; household plots up to 0.6 ha provided with use rights; 2003 legislation supported restricted agr land sales but most land still held in share form and leased to large corporate holdings; by 2009 only 3.3% had obtained land parcels; Foreign individuals cannot own land; land (share) lease and state monitored land sale market operational.

Farm Restructuring and Land Tenure Reform: Soviet Heartland (2)

Ukraine – Land shares distributed to eligible farm workers and initial legal restructuring occurred by 1992; small number of kolkhoz members withdrew to start private farming but required to pay for land; no further reform until 1999 Executive Order required all ~ 11,000 collective farms to restructure into new legal forms (LLC, JSC, etc) and some 6.9 mil former collective farm workers (most over 50 years of age) eligible to receive state deeds (land titles) to specific land parcels (ranging from 1 to 7 ha depending on the size of farm and number of eligible members); motivation for land privatisation and legal restructuring came from foreign investors; land titling 94% completed by 2009 and farm legal restructuring completed by 2000; household plot holdings increased from 0.4 to 0.6 ha; maximum individual agr land ownership set at 50 ha; current estimated 40,000 individual commercial farms with average 35 ha of owned and leased land; major land consolidation by large corporate farms producing grain and other field crops; poor credit markets for individual farmers, but large corporations able to access international financial markets; lease market operational, requiring minimum seven year lease; no agricultural land sale market with continual legislative extended moratorium on land sales since 1999.

Farm Restructuring and Land Tenure Reform: Moldova/Transnistria

- **Moldova** – Former collective farm workers able to withdraw land from the collective in 1991, but only by forming groups able to produce on a commercial scale; household plots ranging from 0.3 to 0.7 ha provided to all rural households; meaningful collective farm restructuring started 1996 with a pilot project to simultaneously restructure farms and issue land parcels to farm members; process was largely completed by 2001; more than 1 mil former collective farm members received three titled land parcels (arable, orchard, vineyard) for own use or sale averaging about 3 ha; large scale corporate commercial farms dominate in north and south, smaller scale individual commercial farms, most growing irrigated vegetables or greenhouse operations, dominate in central area; smallholder credit markets operational but with high interest rates; as major export producer of fresh fruits, vegetables, and wine Moldova promotes sales to Russia and the European Union; land lease and sale markets operational.
- **Transnistria** – Transnistria, an autonomous republic legally organized within the Moldovan Republic, but under Russian peacekeeper protection since 1992 does not follow Moldovan policy. Agr land remains in state ownership; collective farms not restructured in the 1990's but most restructured into JSC form by 2005, workers then encouraged to expand farm holdings by leasing former collective farm land from state; state owned agencies provide inputs and process farm products; no state production plans but all farms report crops and production to local authorities; state managed lease market with no land sale market.

Conclusions

- Soviet Union dissolution resulted in major production declines – most countries still had not recovered to 1990 production levels by 2002 - caused by lack of inputs, especially lack of fertilizer and fuel; negative impact greater in northern countries than in southern countries, in part because northern climatic conditions are less conducive to diverse agricultural cropping patterns.
- Most collective farm members were at least 50 years of age at time of Soviet dissolution with limited potential to adapt to non- agricultural environment and dependent on collective farms supplied social services.
- All countries expanded household plot area to improve rural family subsistence farming capacity; most countries absorbed former collective farm members into the rural economy by expanding smallholder peasant farms.
- All post-Soviet countries continued to provide subsidised gas, electric, water, etc, to rural population but state supported health care systems were not sustainable.

Conclusions (2)

- Baltic and Caucasus countries rapidly dismantled collective farms, created smallholder peasant farms on private land holdings; Estonia adapted free market model encouraging major rural – urban migration; all leased land to commercial family and corporate farms; created land lease and land sale markets; market based input supply and product distribution systems.
- Central Asian Republics supported commercial family farming units by encouraging district (raion) managed long term land leasing. Mountainous Kyrgyzstan and Tajikistan, created mostly family peasant farms and disbanded command production administration; Turkmenistan and Uzbekistan retain command economy production targets and state subsidised input supplies, including credit, and achieved wheat and cotton production increases. Kazakhstan promotes large scale farming.
- Belarus, Russia, and Ukraine promote large scale corporate farming;
 - Belarus retained collective structure with some restructured into JSCs; household plot size expanded; did not encourage peasant or individual commercial farm formation; state retains land ownership and administers long-term lease with farms under command economy targets and norms.

Conclusions (3)

- Russia discouraged formation of peasant or family commercial farms by limiting opportunities of former collective farm members to gain access to land ownership, created market based input and product distribution systems with very limited land sale with state approval.
- Ukraine issued land parcels in individual ownership to all former collective farm members; some commercial family farms created but limited credit availability; promoted formation of large scale corporate farms with access to international financial markets; created market based input supply and product distribution systems; land lease markets operational with restrictions, but land sale is under moratorium since 1992.
- Moldova issued land parcels in individual ownership to all former collective farm members with functioning land sale and lease markets and created market based input supply and product distribution systems.