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Livestock Value Chains in Central Asia: From Smallholders to Corporate Business?

Life in Kyrgyzstan Conference 11 Oct 2025

Main points of my talk

- Motivation: pastoral resources & value chains in Central Asia
- Smallholders & pastoralists
- Corporate dairy & fattening businesses
- Conclusions & policy implications

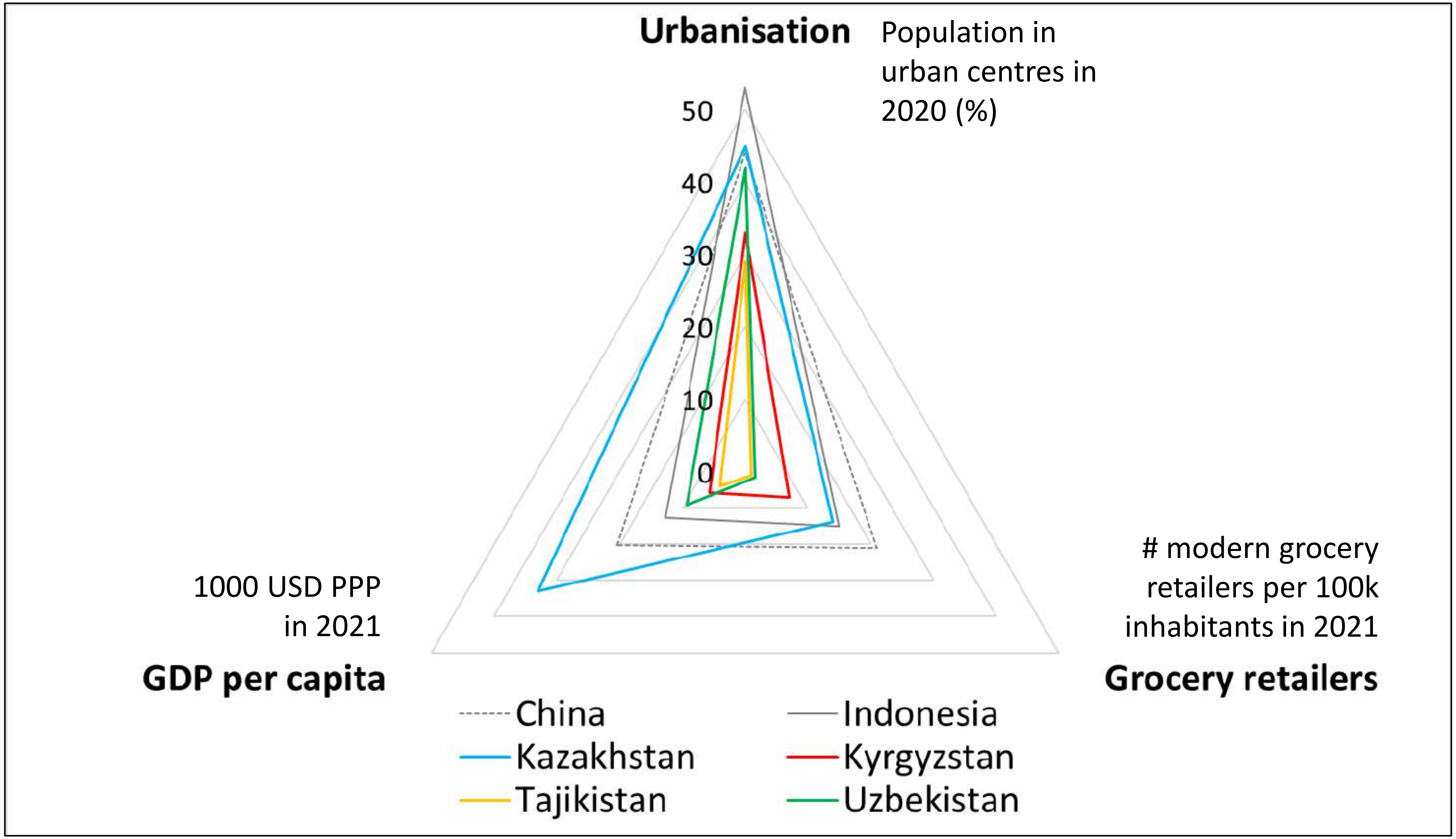
Motivation & background

A livestock value chain revolution in Central Asia?

- Emergence of Western-style **supermarkets**
- **Capital intensification**, technology upgrading
- Emergence of **quality standards**
- Rise of third party **food logistics services**
- **Spatial elongation** & de-seasonalisation of value chains

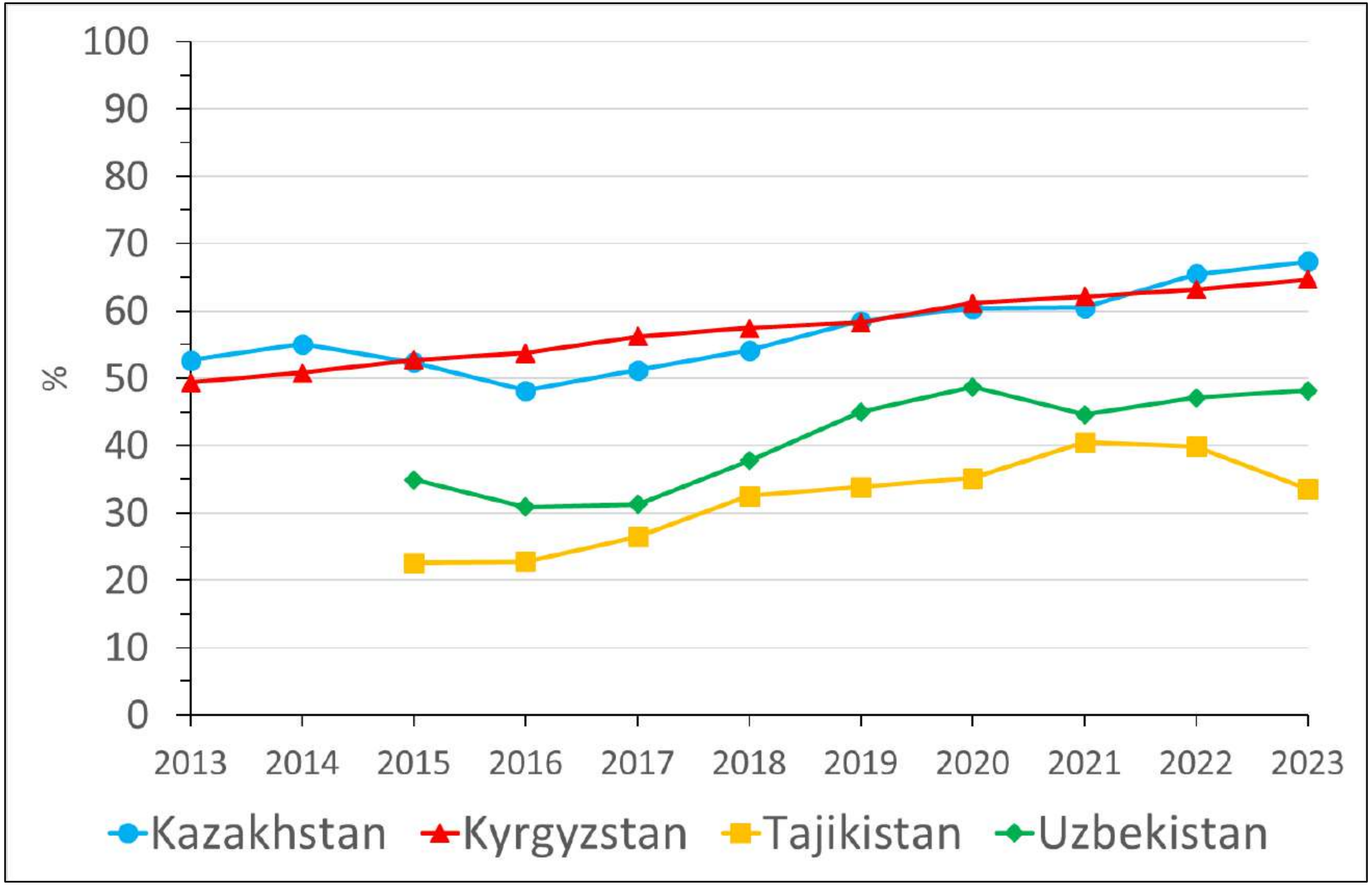
Reardon 2015; Barrett et al. 2022.

Agri-food value chain conditions in Asian countries



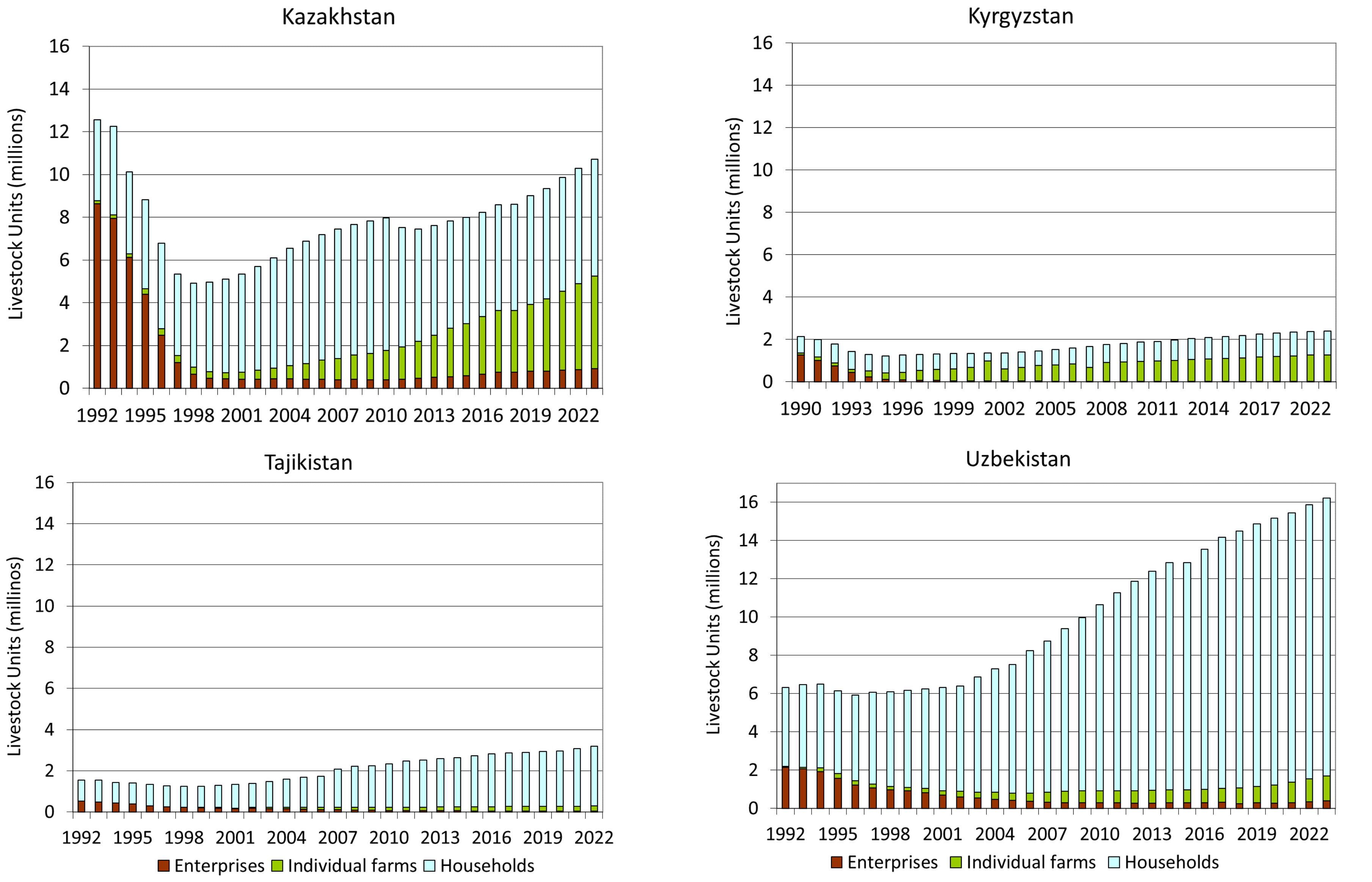
Sources: EU Copernicus (2025) for urbanisation, World Bank (2025) for GDP per capita and Global Alliance for Improved Nutrition et al. (2025) for grocery retailers.

Share of modern retail outlets in total sales



Source: National Statistical Offices.

Livestock numbers by farm type Central Asia

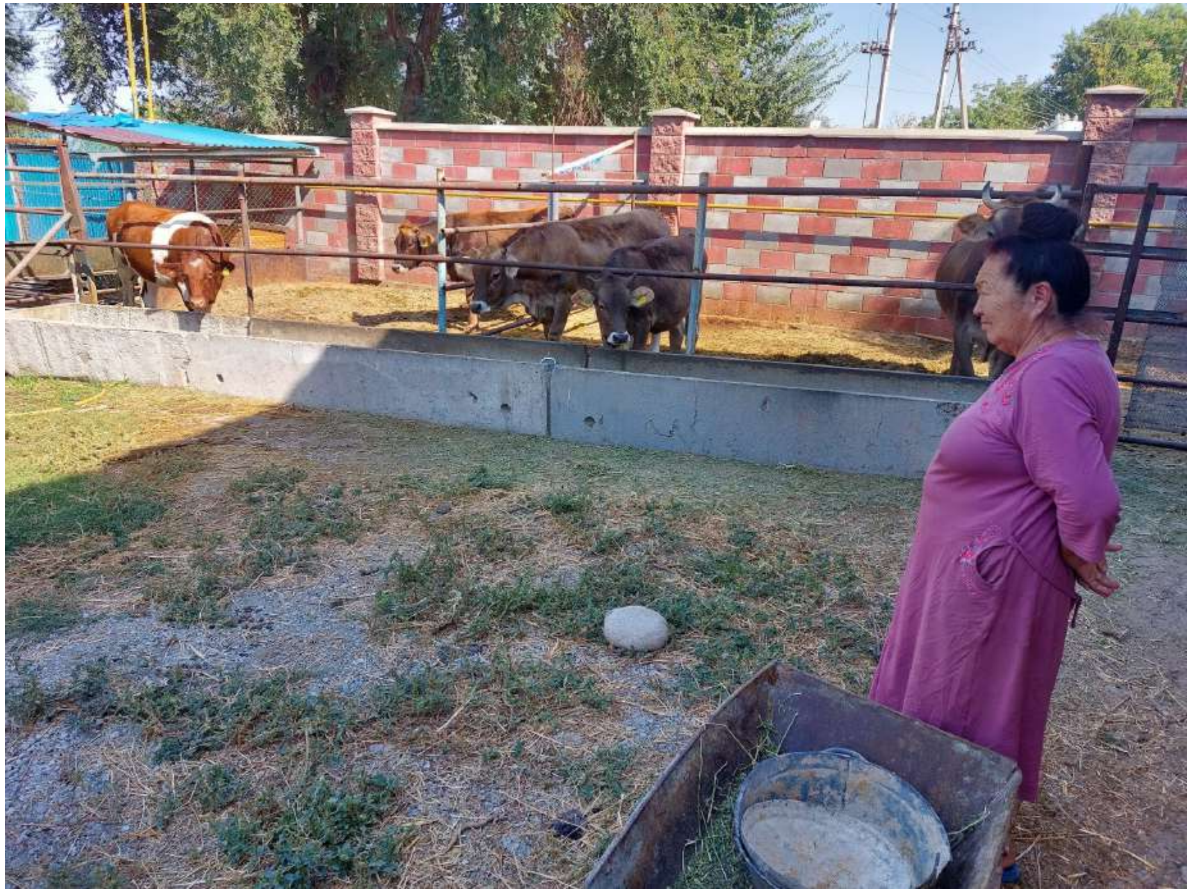


Source:
National Statistics.

Central Asian dairy producers

Almaty 2015

Sughd 2022

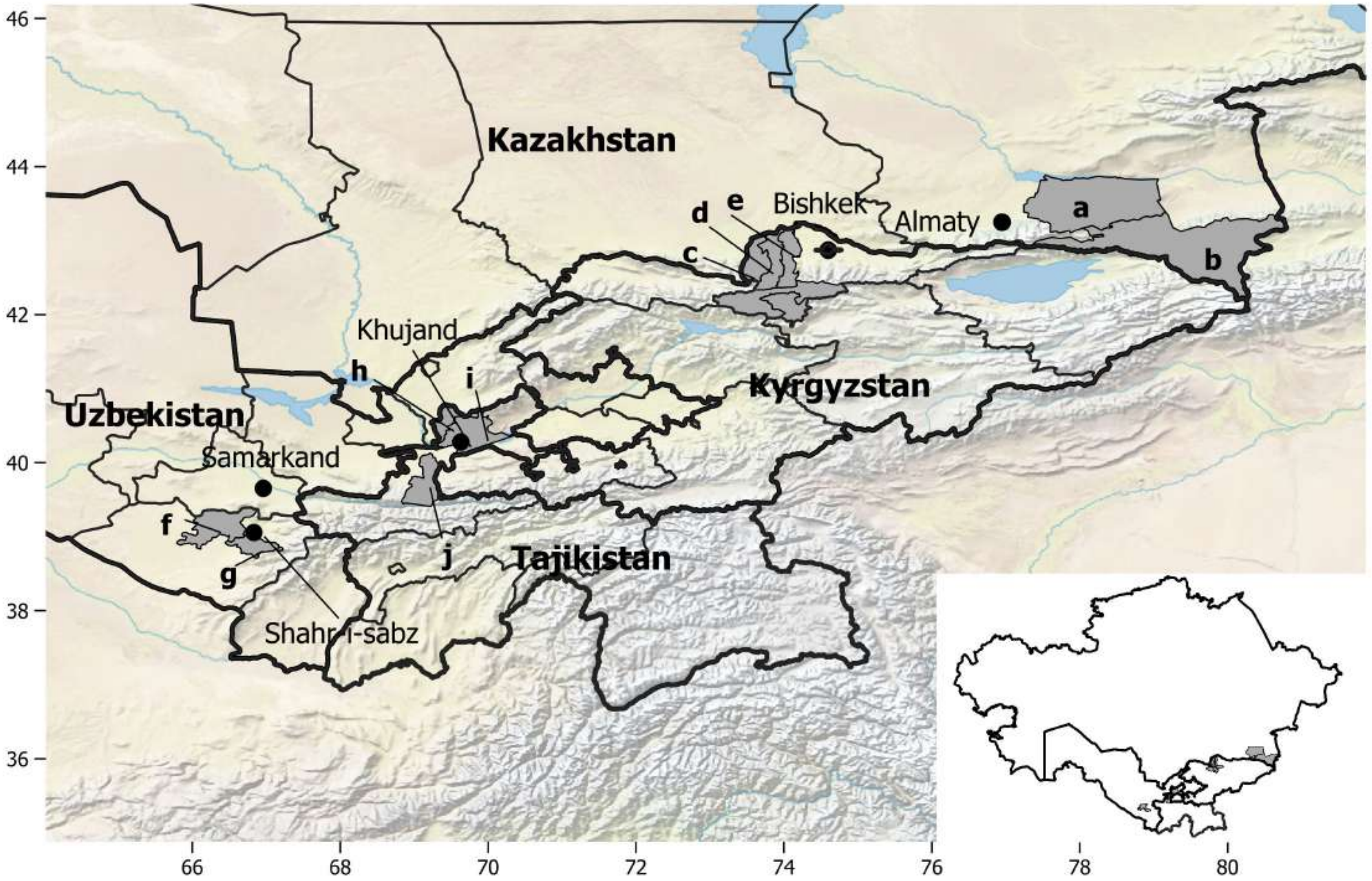


Chui valley 2022

All photos by Martin Petrick

Smallholders & pastoralists

IAMO-JLU livestock data collection 2018-2020



Peri-urban farming systems in foothill location of four countries
Number of observations

	Farms	Households
Kaz	200	50
Kyr	131	119
Taj	154	148
Uzb	149	152

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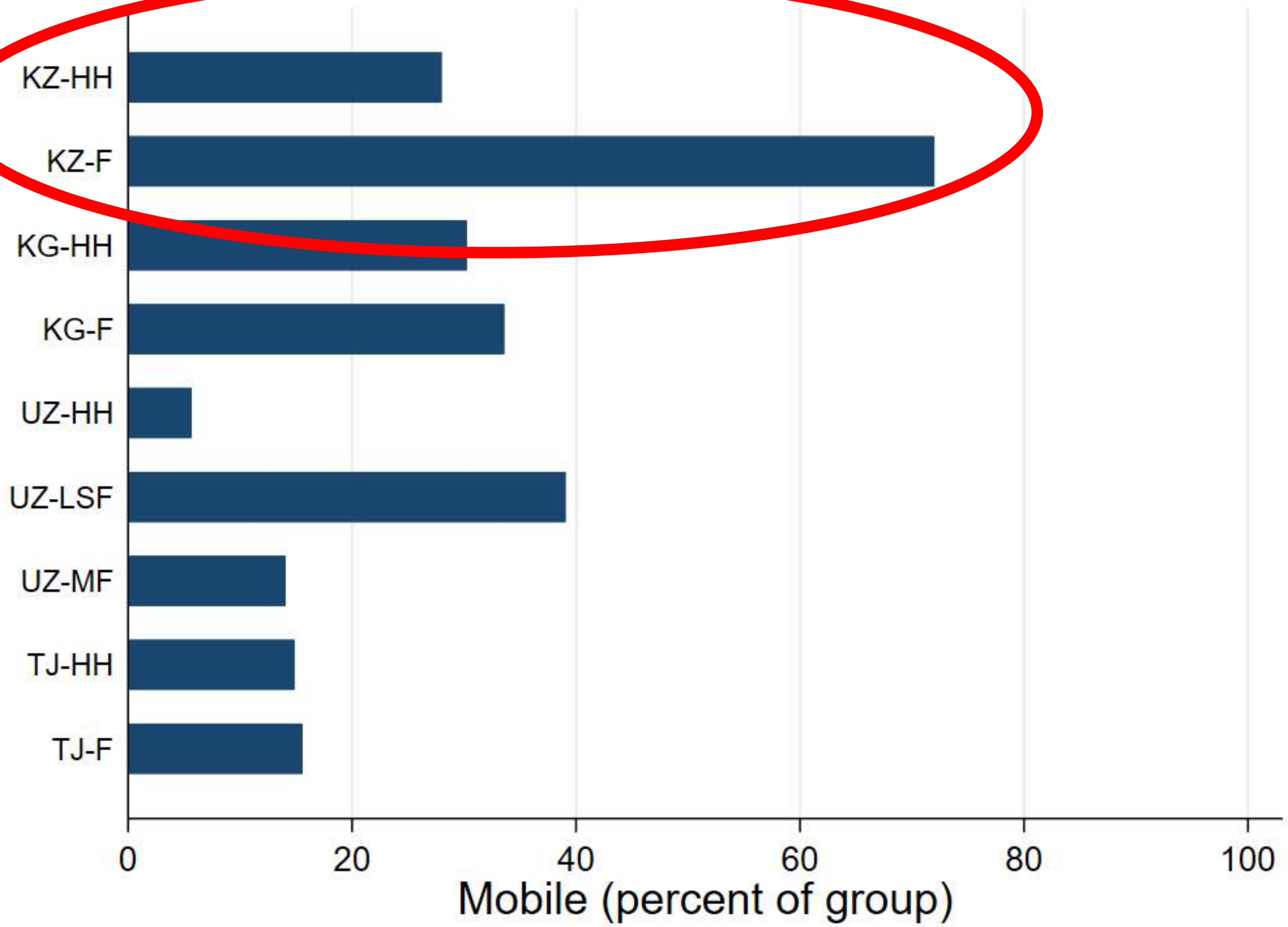
District names: (a) Enbekshikazakh; (b) Raiymbek; (c) Panfilov; (d) Jail; (e) Moskov; (f) Chirokchi; (g) Yakkabogh; (h) Masthchoh; (i) Gaforov and (j) Devashtich. Source: Petrick et al. 2025.

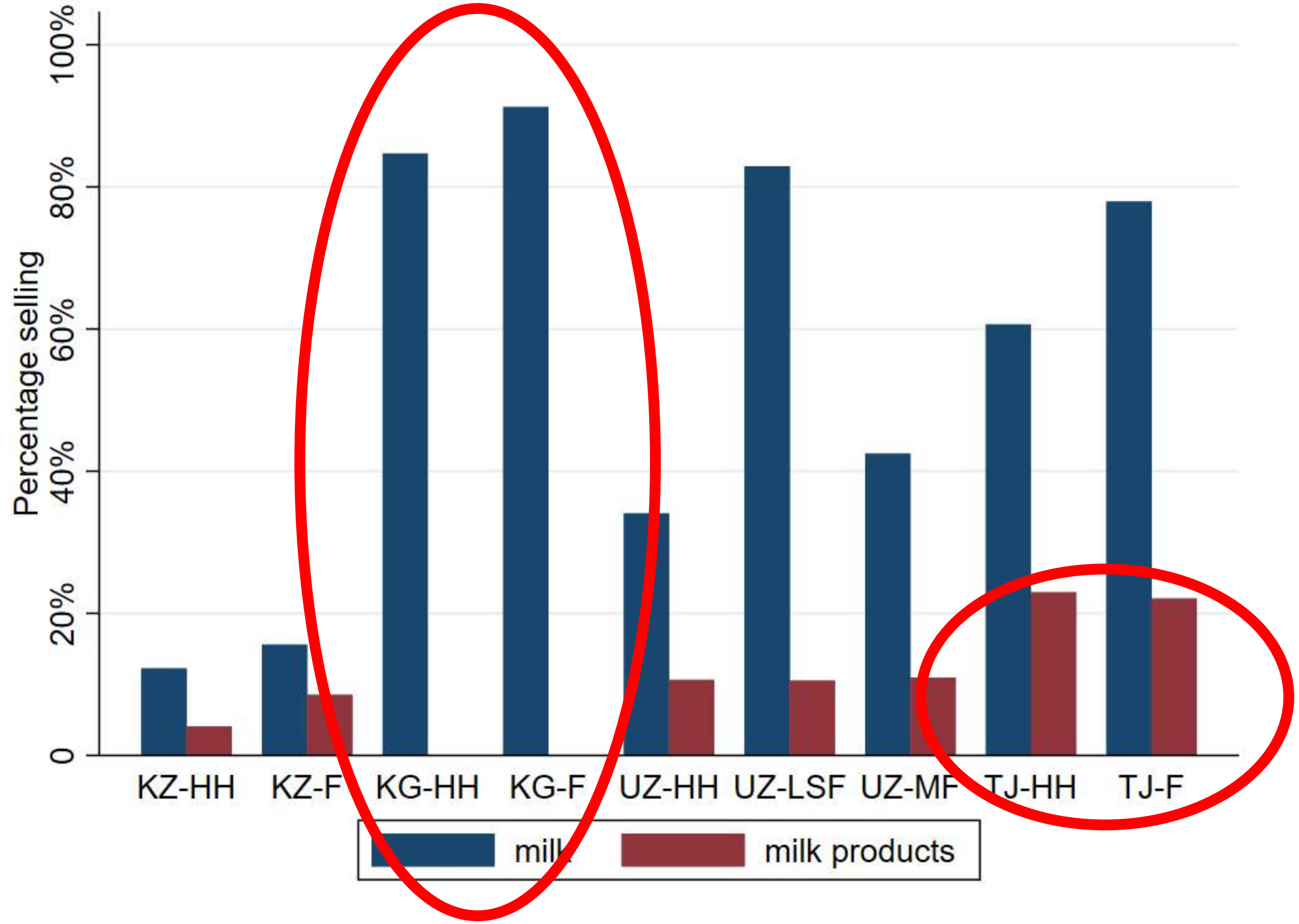
Remote pasture utilisation by cattle holders



HH: households
F: individual farms
LSF: livestock farms
MF: mixed farms

Source: Petrick/Robinson/Kosimov 2025

Share of cow owners selling milk & dairy products



Only respondents keeping cows.

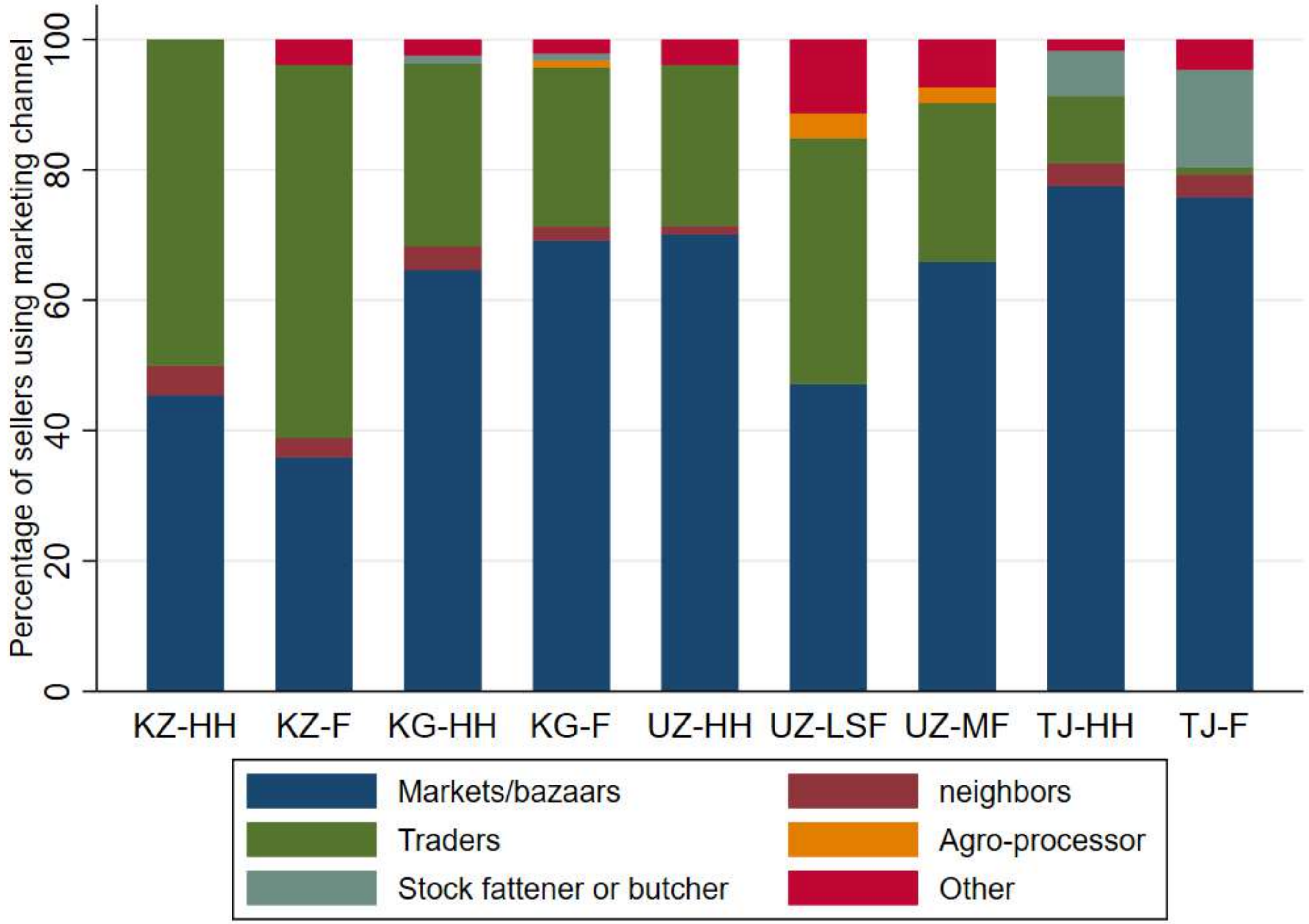
HH: households
F: individual farms
LSF: livestock farms
MF: mixed farms

Source: Petrick/Robinson/Kosimov 2025

Insights on pastoral land use in Central Asia

- Massive growth of animal stocks recently
- **Grazing ruminants remains key strategy** to derive economic benefit from extensive rangelands
- Livestock **mobility increasing** (again)
- Re-colonisation of remote rangelands underway
- Complex **crop-livestock interactions** near settlements

Marketing channels for cattle



HH: households
F: individual farms
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Source: Petrick/Robinson/Kosimov 2025

Livestock markets in Central Asia

Tokmok, Kyrgyzstan 2022

Milk handling in Chui valley, Kyrgyzstan

Chui valley 2018, 2022

Key findings on value chain dynamics

- Main livestock expansion occurs in **households** (except Kaz)
- Households **lack access to pastures**, hence purchase fodder
- Many **semi-subsistence**, so far little value chain transformation
- **Low-tech, short value chains** esp. in Taj & Uzb
- Only 30-45% of milk deliveries of satisfactory quality

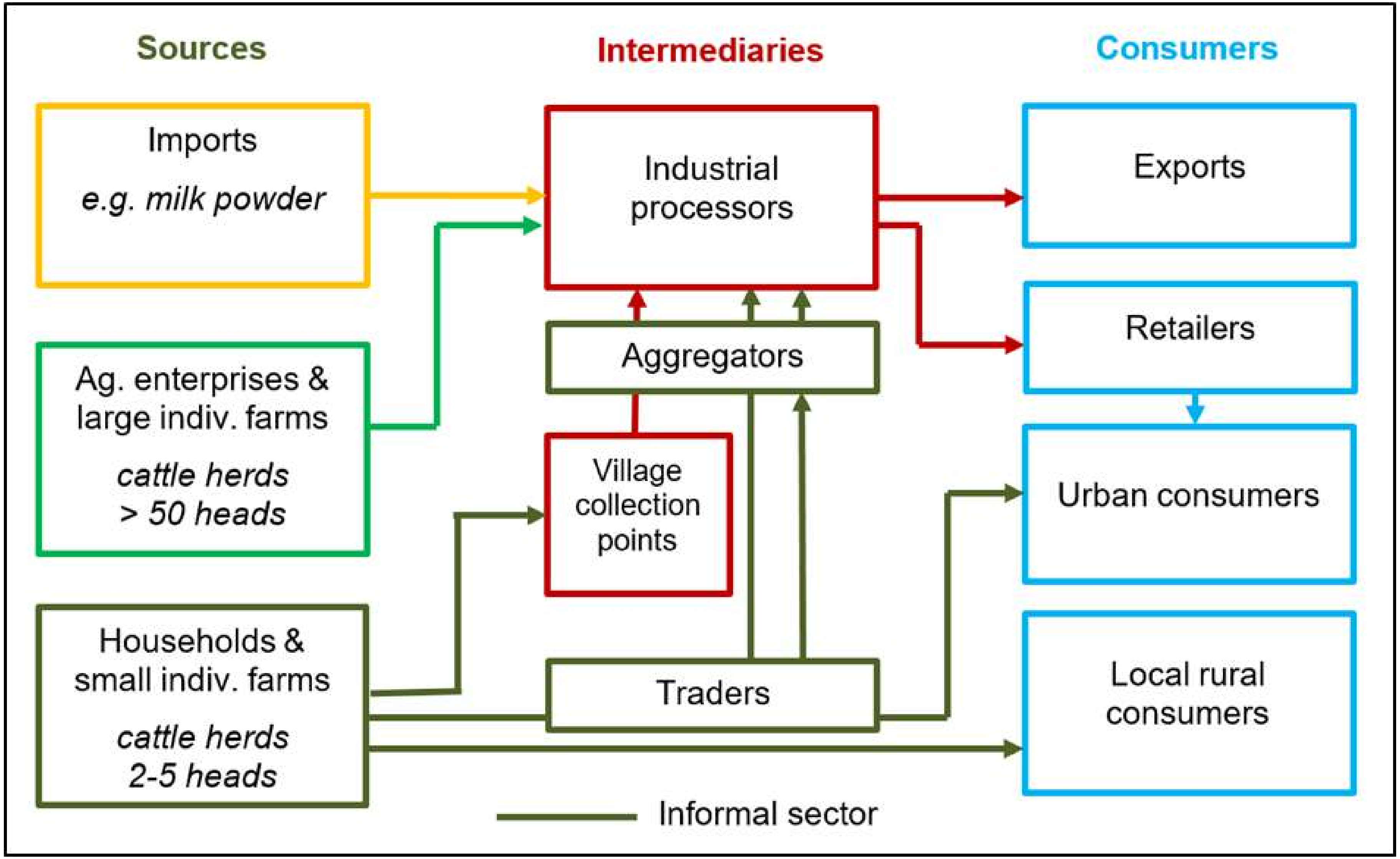
Petrick/Robinson/Kosimov 2025

Vertical coordination, competition & contracting

- Traders = **informal coordination agents**, often powerful gatekeepers to value chain
- Traders **reduce competition** by spatial market segmentation
- Processors & donors **promote alternatives** (direct aggregation, village cooling)
- **Little formal contracting** (except specialised livestock farms Uzb), no resource providing contracts
- Formal **cooperatives** often dysfunctional

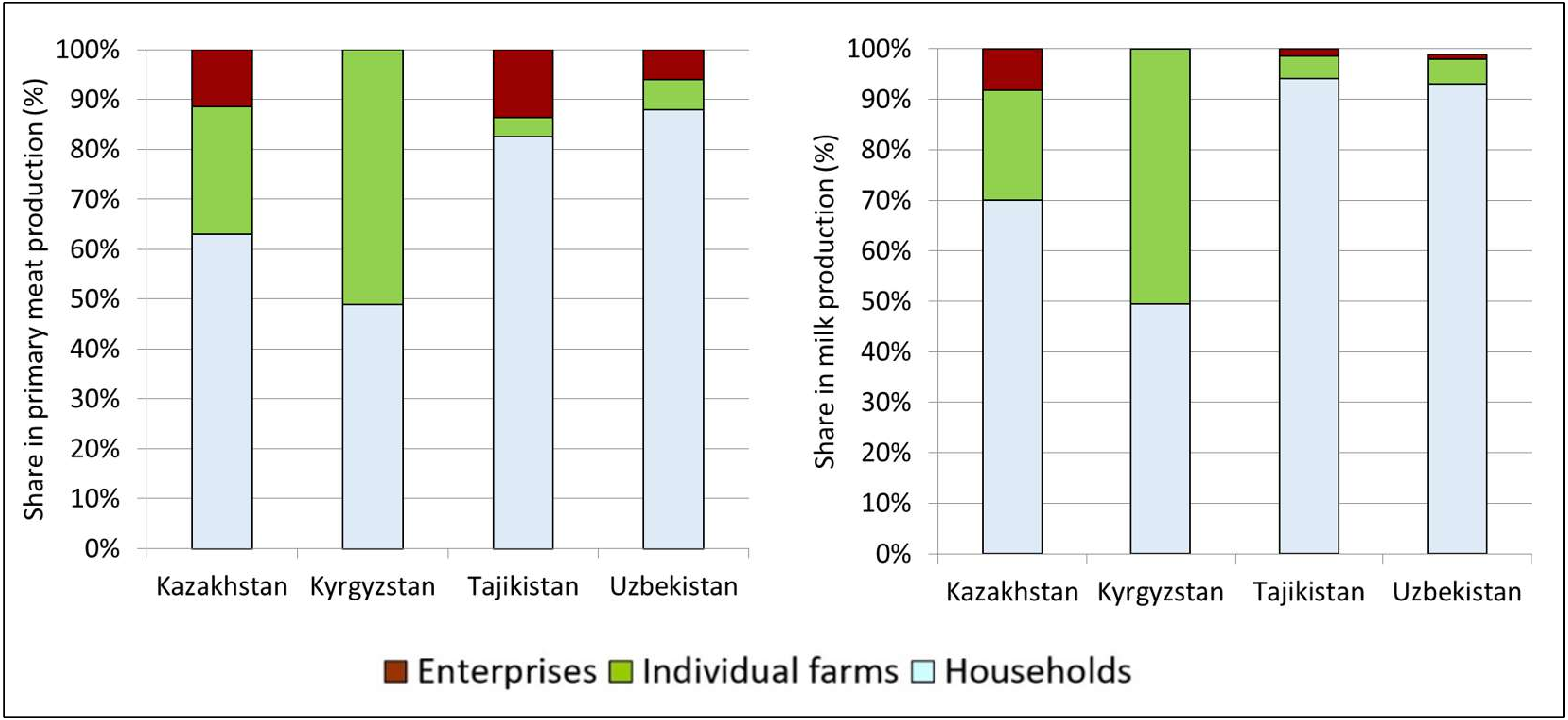
Petrick/Robinson/Kosimov 2025

Dairy value chains in Central Asia



Corporate dairy & fattening businesses

Meat (left) and milk (right) production by farm type



Source: National Statistical Offices.

Corporate businesses in dairy & beef

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Key findings on corporate farming businesses

- Active in **corporate dairy & cattle fattening**, several thousand animals per enterprise, often spread across several sites
- Typically access to **own cropland & fodder production**
- **Vertically integrated**, own processing, retail outlets, brands
- Geared to **domestic markets**, urban consumers
- Few attempts at smallholder integration
- Often **government supported**

Enterprise case studies in Petrick/Robinson/Kosimov 2025

Conclusions & implications

Why so little restructuring of smallholders?

Bifurcated dual equilibrium value chain

- **Smallholders** obtain better prices & lower costs on limited volume markets
- **Vertically integrated businesses** may exhibit economies of scale in procurement, processing, quality control, but suffer from underutilization

Locked-in farming structures involving a “smallholder trap”?

Few proven models of smallholder integration in CA

Petrick/Robinson/Kosimov 2025; Krugman 1993

Ineffective government policies

Rarely reach the type of farmers where the animals are

- Largely **failed attempts to aggregate** producers into larger units (clusters, coops), households overlooked
- **Land policies** lead to slow & conflicting changes (rigidity of land market, dilemmas in pasture tenure)
- **Credit subsidies** end up with few large farmers, as smaller ones don’t apply in first place (lack of profitability, high risks)
- Unintended / undesirable consequences of **industrial policies** for trans-border trade (export bans, stud bulls)

Petrick/Robinson/Kosimov 2025

Conclusions on value chain transformation in CA

- **Short, low-tech value chains prevail**
  from many small producers to dispersed end-consumers
- More a **supply web** than a value chain
- **Modernisation stimuli** emerge from processors & retailers, government, international donors
- **No massive transformation (yet)**
- **Corporate business models** as emerging players

Policy implications

- More **impartial** policies that serve all producers (households vs enterprises), allow for more bottom-up experimentation
- Better **coordination** of policy measures (e.g. sector promotion vs trade liberalisation)
- Focus on **local public goods** provision / collective action (e.g. pastures, quality standards, water, breeding,…)
- Strengthening **rural institutions** (banking, land administration), create capacity to liberalise

Funding acknowledgements

With funding from the:

Federal Ministry
of Research, Technology
and Space

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German Academic Exchange Service

The SDG[nexus] Network is supported by the DAAD with funds
of the German Federal Ministry for Economic Cooperation (BMZ)

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