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## Interplays between Policy and Practice on Rangelands in Kazakhstan since the 1990s

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# Title: **Interplays between policy and practice on rangelands in Kazakhstan since the 1990s**

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**Key words:** Post-Soviet; Central Asia; livestock mobility; inequity

## **Abstract**

Kazakhstan contains a large share of the world's remaining "near-natural" temperate grassland, so how the Kazakh rangelands are managed has global implications for plant and animal biodiversity, carbon stocks, and at a national level for the wellbeing of Kazakhstan's land, people and the economy.

The extensive livestock and rangeland management systems of Kazakhstan were transformed after the early 1990s. Privatisation had deep and very damaging structural impacts. There are now considerable inequities in the distribution of state support, landed resources and livestock, with the appearance of a minority of large-scale livestock owners. Government policies allowed these livestock owners to register title over former state pastureland containing key natural and infrastructural resources. As the national economy was bolstered by oil and gas extraction, increased demand for meat encouraged accumulation of livestock and capital investment into larger livestock enterprises, widening the disparity with the majority of small-scale livestock owners, who also own the majority of the livestock.

The Kazakh government now has programmes that support large-scale livestock owners, through subsidies backed by loans from international financial agencies. The mass of small-scale owners is ignored, as the government considers these mostly sedentary livestock farmers to be economically unviable and their animals a threat to the grazing land around villages. This is because small-scale livestock owners are unable to achieve economies of scale permitting seasonal migration to distant pastures, in contrast to the bigger-scale livestock owners who have re-adopted the former migratory management system.

Smaller-scale livestock producers are major suppliers of livestock products to the market and also uphold rural livelihoods with employment and food. Government efforts to promote productivity and growth for the livestock sector could promote seasonal mobile livestock management for small as well as large-scale livestock owners, which can be more environmentally sustainable and economically efficient than greater reliance on cultivated fodder crops and reduced grazing.

## **Introduction**

Central Asia contains the world's largest contiguous rangelands (Mirzabaev et al. 2016), comprising 25% of the world's total permanent pastures (FAOSTAT 2020). These rangelands have been grazed for more than ten thousand years by domesticated livestock – sheep, goats, horses, and later cattle and camels (Taylor et al. 2020). For at least 5,000 years these livestock have been herded by mobile pastoralists exploiting spatially heterogeneous, seasonally variable and climatically unstable natural resources over large geographical scales (Frachetti et al. 2012). Nomadic and transhumant livestock management by Kazakhstan pastoralists continued through the 19<sup>th</sup> C after Russian colonisation, suffered a devastating break in the 1930s but was resumed in the latter 20<sup>th</sup> century of the Soviet era, then broken again in the 1990s (Kerven et al. 2021).

Within Central Asia, Kazakhstan's pastures are a major share of the world's remaining "near-natural" temperate grassland (Kamp et al. 2016). Globally, "naturally functioning grasslands are rare. In most of the world's grassland areas, grazing and fire patterns have been altered by humans and...much of the world's grasslands have been converted to cropland, especially in the temperate zone" (Freitag et al. 2021:389). Management of Kazakhstan's temperate pastures has been transformed since the 19<sup>th</sup> century (Kerven et al. 2021; Robinson et al. 2016). This paper summarizes contemporary relationships between Kazakh pastoralists, livestock populations and their grazing distributions, which have resulted from policy initiatives and economic changes in three decades since the Soviet Union ended. The aim is to indicate the ecological and economic impacts of the current grazing systems, which suggest that reinvigorating the former mobile livestock grazing systems would be more equitable and environmentally sustainable.

## **Methods and Study Site**

The paper reviews literature in English since privatisation in the mid 1990s, on the reorganisation of extensive livestock management across Kazakhstan, which lies between latitude 48° 00' 19.02" N and longitude 66° 54' 16.36" E. The pastures totalling 1.9 million km<sup>2</sup> constitute 70% of land area, are predominantly semi-arid to arid, receiving less than 300 mm precipitation per annum, and cover multiple ecological zones traversing latitudes and altitudes from sandy desert dominated by woody shrubs and

ephemeral spring bulbs, to short and long-grass steppes on the plains, and alpine meadows grazed by livestock in summer at altitudes of up to 3,000m (Van Veen and Alimaev 2005). The climate is severely continental, with cold and snowy winters in which temperatures may fall to -30C, and hot dry summers with maximum temperatures of 50C (ibid.). Rural population density is very low, at 0.7 and 3.6 persons per 1 km<sup>2</sup>. The national population is 18.9 million of which 42% are rural in 1.6 million households, while there are nearly 17 million sheep, 7.4 million cattle, 3 million horses and 2 million goats (FAOSTATS 2020).

## Results

Among livestock owners in 2017, nearly 90% were not registered as farms but nevertheless owned 58% of all livestock, while the official category of private registered farms (11% of livestock-owning units) owned 36% of the national livestock. The remaining 6% of livestock was owned by a few enterprises (Kazakh National Statistical Agency 2018). The designation of private registered farm has important implications for legal grazing access, property rights and government financial support (Robinson 2020).

For nearly a decade after independence in 1991, the state paid little attention to the livestock sector, being preoccupied with developing the enormous reserves of oil and gas. New regulations on privatization of state livestock farms and pastureland tenure were misinterpreted or circumvented by livestock owners in practice (Behnke 2003; Kerven et al. 2006). The sector evolved in a vacuum of central power and under the control of local privileged elites, survivors from the Soviet state farms who were able to appropriate much of these dismantled farms' heavy equipment, vital infrastructure such as barns, and to capture key natural resources, principally water points in the dry rangelands. This minority were thus able to accumulate larger flocks and herds, hiring impoverished unemployed shepherds and selling livestock in new private markets due to rising urban demand for meat. Crucially, their acquisition of essential inputs and bigger flocks achieved the economy of scale which allowed them to re-establish long distance movements to access optimal pastures in the different ecosystems and seasons. They deploy extended kinship networks in both their village and in cities, to combine access to resources of capital, land and labour - financial credit, arable or hay land, and family labour for flock management within multi-generation patrilineal family units (Kerven et al. 2016).

The great bulk of livestock owners are now mostly sedentary village-based, generally unable to afford to seasonally migrate with their small flocks to distant pastures – either hundreds of km across the desert and steppe plains, or vertically up steep mountain tracks - due to the cost of transport, unavailability of equipment and labour, badly maintained roads and bridges etc. These small-scale unregistered farmers can only legally access 12% of pasture area, which is immediately around villages. In better-favoured climatic locations and nearer to cities with high demand for livestock products, a minority of small-scale livestock owners continue vertical transhumance from valleys and plains to alpine meadows, by pooling their animals with those of larger livestock owners or else by several families collectively hiring shepherds (Ferret 2018).

The government explicitly supports the approximately 200,000 larger-scale farmers who are officially registered and entitled to lease private pastures and their associated water points. Support includes a vast subsidy programme for these farmers who meet herd size and land area conditionalities. The subsidy funds were intended to promote intensification, through improved feeding, animal housing, using imported pedigree stock, and ranching-style management (Robinson 2020). The Kazakh government is now shifting the focus of support to include medium-scale cattle farmers having 10-50 head of cattle - as well as large-scale registered farmers and enterprises with up to several thousand head of cattle (World Bank 2019). There is a thriving export market for beef from Kazakhstan. Meanwhile, 90% of livestock-owning farmers are unregistered and own on average 2 cattle and 7 sheep or goats.

There are numerous environmental consequences of these recent changes in policies and national economy, leading to altered land use and livestock management. Pressure has risen on circum-village land, often the only source of grazing for small-scale owners as already discussed, causing negative balances of palatable plants and poor animal nutrition (Dara et al. 2020). In an opposite process, land formerly more heavily grazed for many decades is now only lightly grazed or not at all, since only few large flocks can currently move to seasonal pastures; this is resulting in biodiversity gains (Kamp et al. 2016). Land use changes have positively affected carbon sequestration in plants and soil, due to enormous reversion of crop land to pastures (Schierhorn et al. 2019). Together, these changes over the last three decades point to the substantial effects of different livestock grazing intensities on the ecology and sustainability of the Kazakh rangelands for the future.

## Discussion

The heterogeneous ecosystems spread across thousands of sq km of Kazakhstan's pastures have provided nourishment over millennia for domesticated animals and the humans dependent upon these animals. State

management of these rangelands under a capitalist economy in the 21<sup>st</sup> C will mean having to balance private rights with collective use. Fortunately, the relevant legal and policy instruments already exist, in the form of the 2017 Law on Pastures (Kazakhstan 2017). This law promulgates methods of sharing resources through pasture users' associations, to access common property of water sources and distant pastures (i.e. remote areas beyond village perimeters), and endorses the redistribution of pastures. Furthermore, according to this law, pasture users are enjoined to comply with pasture rotation schemes. These methods are intended to allow for the suitable provision of animal feed requirements and prevention of pasture degradation. In practice, as yet there seems to be no serious effort by the government to implement these particular clauses of the new pasture law. Instead, the privatisation process of auctioning 49 year leases of pasture land and associated water sources has proceeded, while communal rights to use valuable natural resources have not been addressed. This disjunction between policy and practice in the management of Kazakhstan's vast rangeland assets leaves open opportunities for the well-connected and prosperous new social strata of livestock owners to amass more of these assets for themselves, leaving less available in the future for the less well-off.

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