

KEY POINTS

- Sustainable growth of Mongolia's livestock sector requires an enabling environment for cooperative institutions, the integration of small-scale herders with markets, and production of high-quality value-added products. To balance animal numbers with pasture capacity it is important to enforce herd targets and enhance agriculture public services.
- Fair and safe animal product markets can be supported through clear legislation for agriculture service cooperatives, single mandatory sales points for livestock in each *soum* (district) center, a value-added tax favoring cooperative sales, and mandatory quality pricing for animals and fibers. A sustainable cofinancing system should be developed using the livestock head tax.
- ADB's pilot project on an integrated model of sustainable pastureland management and value-chain development in two *soums* shows that, alongside an enabling environment, pasture-use contracts and herder cooperatives can provide effective and sustainable solutions.

Strengthening Cooperative Institutions to Support Sustainable Livestock Production in Mongolia

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CHALLENGES TO SUSTAINABLE AND VALUE-ADDED LIVESTOCK PRODUCTION

Degradation of rangeland and low productivity

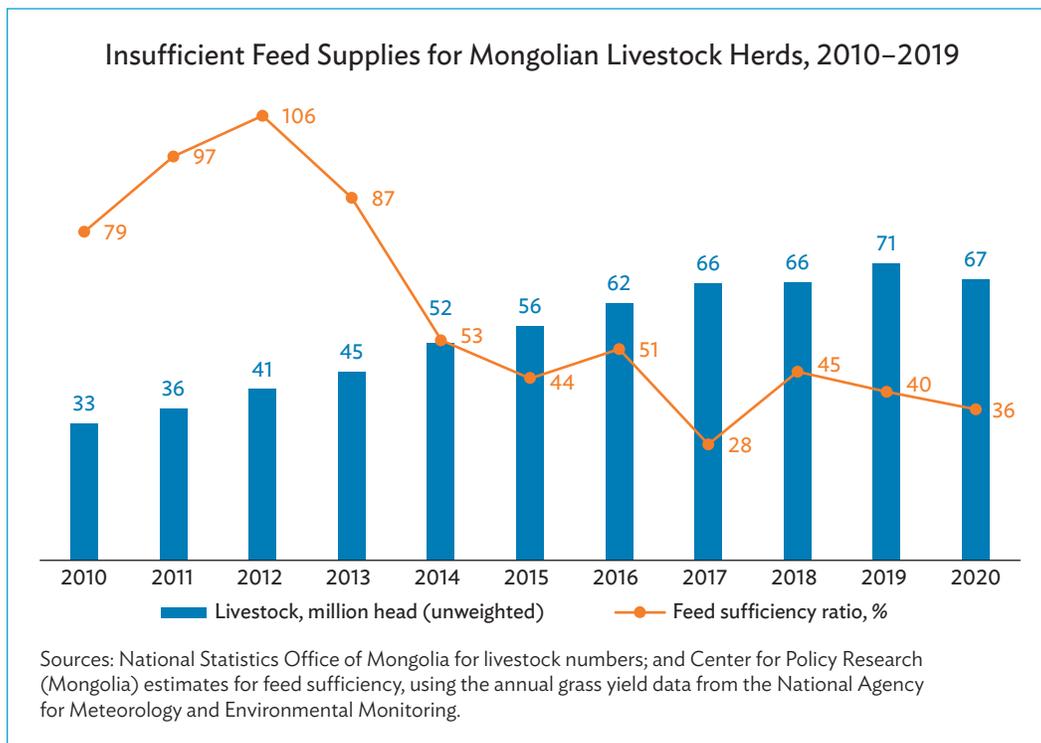
The agriculture sector remains a major source of poverty reduction and employment in Mongolia, accounting for 12.8% of gross domestic product and 23.3% of employment in 2020. Livestock production accounted for 87% of total agricultural output in 2020, and is already the second most important export sector after mining.¹ In 2020, 67 million animals grazed on about 110 million hectares (ha) of meadows and pastures in Mongolia.² The growth of the livestock sector in the last decade has been driven entirely by the increase in herd sizes rather than by productivity improvement.

As the herd sizes rapidly increased, with its animal population doubling in less than 10 years, overgrazing in Mongolia intensified. The degradation of its pasturelands caused livestock feed supplies to fall below the level required for proper nutrition (see Figure). The effects of animal undernutrition is evident in the decrease in yields over time. Between 1989–1991 and 2017–2019, the average slaughter weight of sheep and

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¹ National Statistics Office of Mongolia. Statistical Database. <https://www.1212.mn/> (accessed 25 February 2022).

² Footnote 1; and Food and Agriculture Organization of the United Nations (FAO). FAOSTAT Database. <https://www.fao.org/faostat/en/#home> (accessed 25 February 2022).



goats declined by 11%, while that of cattle dropped by 4%; milk yield decreased by 31% in the same period.³ Undernutrition also heightened the vulnerability of animals to diseases and increased their body fat percentages, making Mongolian meat less competitive in international markets and preventing the expansion to new meat export markets.

In a recent study of common grasslands in Mongolia and the People's Republic of China, Brown estimated that livestock herds in both countries need to be reduced by 50% to maximize animal productivity—a vision of the source of growth of the livestock sector based on productivity and quality improvements.⁴ Additionally, *dzuds* (severe winter weather) and droughts cause severe losses to the livestock population. During the 2009–2010 *dzud*, Mongolia lost 9.7 million head of livestock (equivalent to 22% of the national herd); 8,800 households lost all their animals; and 32,700 households lost more than 50% of their livestock. The livestock sector is by far the largest source of greenhouse gas (GHG) emissions in Mongolia, accounting for 49% of the total emissions in 2017.⁵ The increase in herd sizes and the ongoing degradation of rangeland are principal drivers of GHG emissions in Mongolia.

Mongolia has an opportunity to improve animal productivity and its competitiveness in the export markets by balancing inventories with pastureland carrying capacity, improving breeding and health, eliminating or containing dangerous infectious diseases, and ensuring proper nutrition of livestock throughout the year. Mongolia's Vision 2050, the country's latest long-term development policy document, set the objective to develop agriculture as a leading sector of the economy that is environmentally friendly; adaptable to climate change; resilient; responsive to social development trends, needs, and requirements; responsible; highly productive; and sustainable.⁶ Stage I (2021–2030) of the policy document focuses on improving the resource utilization and commercialization of agricultural outputs and shifting the sector from a focus on quantity to high quality and productivity. The Ministry of Food, Agriculture and Light Industry's Action Plan on the Mongolian Agenda for Sustainable Livestock (2018) set targets to (i) restore, rehabilitate, and utilize pasturelands and water resources sustainably and responsibly; (ii) adapt to climate change; and (iii) reduce the livestock number by 5 million sheep units from 2017 to 2020, under

³ FAO. FAOSTAT Database. <https://www.fao.org/faostat/en/#home> (accessed 22 February 2022).

⁴ C. G. Brown, ed. 2020. *Common Grasslands in Asia: A Comparative Analysis of Chinese and Mongolian Grasslands*. Northampton, MA: Edward Elgar Publishing, Inc.

⁵ Government of Mongolia, Ministry of Environment and Tourism, Climate Change Project Implementing Unit. 2017. *Mongolia's National Inventory Report, 2017: Annex to the Initial Biennial Update Report to the United Nations Framework Convention on Climate Change (UNFCCC)*. Ulaanbaatar. https://unfccc.int/files/national_reports/non-annex_i_parties/ica/technical_analysis_of_burs/application/pdf/mongolia-bur1-1-nir.pdf.

⁶ Government of Mongolia. 2020. "Vision-2050" *Long-Term Development Policy of Mongolia* (approved 13 May 2020). Ulaanbaatar.

the understanding that pasture carrying capacity is exceeded by 25 million sheep units.⁷ However, the target to reduce livestock numbers was not achieved.

Weak market integration of small herders

Livestock herds are distributed unevenly in Mongolia. In 2020, large-scale herders with more than 500 animals (representing 23% of the herder population) owned more than half of the livestock. Small herders with less than 200 livestock (48% of the herder population) held only 12% of the livestock. Small-scale herders are scattered over a large territory and experience difficulties accessing markets and services, such as farm advisory and finance. After the dissolution of the state procurement system, value chains beyond the farm gates of herders have been dominated by individual informal traders called “changers” engaged in trading livestock raw materials. The market structure for products and the purchase of inputs, access to finance, and other constraints create what is sometimes referred to as “the curse of smallness,” a trap that prevents smallholders from fully exploiting their inherent productivity advantages because of market access barriers.⁸

Herders find themselves at a market power disadvantage—given the atomistic structure of animal and fiber production in Mongolia, the seasonality of production inherent in extensive livestock production, and the concentration of industrial slaughtering in a few processors. The market power superiority of processors and traders allows them to pay a fixed price to herders for animals and fiber without quality differentiation. This situation has led to a systematically low herder share in the final market values.

Products sold through changers are not registered with the tax authorities, and animals are not registered and inspected by veterinary authorities. Hence, the livestock product value chain is essentially outside the purview of the value-added tax (VAT) and animal traceability systems.⁹ Informal marketing precludes animal health certification, animal registration for traceability, animal quality assessment, and value-added taxation. Products sold through changers are often hand-slaughtered, impeding state efforts to shift to industrial processing. The lack of traceability and veterinary inspection of Mongolia’s meat supply is a crucial factor limiting meat exports.

INSTITUTIONAL GAPS FOR SUSTAINABLE PASTURELAND MANAGEMENT AND MARKET INTEGRATION

The transition to a market economy which started in 1992, dissolved the collectivized *negdel* (agricultural cooperative) system and state-owned farms. This left institutional gaps in agricultural policy including government services for farmers for crop and veterinary health, research and extension, crop and animal breeding, and price information previously provided through collective farms.

Institutions to effectively manage use of pasturelands

A common resource, if managed properly, does not inevitably lead to overuse.¹⁰ Mongolian herders traditionally cooperated through neighborhood groups. Members of informal herder groups have common seasonal pastures and water points and, in many cases, are related to each other on a kinship basis. The *negdel* system set pasture rotation rules and planned animal sales targets, which indirectly set limits on animal inventories and balanced the number of animals with the pastureland’s carrying capacity. In 1992, pastureland became a common resource, with few restrictions on the use of the land by privately owned livestock.¹¹ The lack of land use contracts is in part due to difficulties in the enforcement of stocking density regulations. While the Constitution prohibits the private ownership of pasturelands,¹² the 1994 Land Law (updated in 2002) distinguishes between two land categories under different modes of management (pastureland and settlements).¹³ Pastureland is under common use according to a rotation plan of livestock through summer, autumn, winter, and spring pastures. However, summer, winter, and autumn settlements are to be allocated to and managed by individual settlements called *baghs* (subdistricts) and *khot ails* (groups of herding households camping together).

Since 2002, the Land Law has allowed *soum* (district) governors to establish land use contracts with herder groups for the use of winter–spring pastures if herder groups apply for them. However, this has not been implemented, except for cases promoted by donor projects. Because of the lack of elaborate tools for controlling animal numbers (such as pasture tickets or pasture fees) and poor clarity on how to manage pasturelands,

⁷ Government of Mongolia; Ministry of Food, Agriculture and Light Industry. 2018. *Mongolian Agenda for Sustainable Livestock*. Ulaanbaatar.

⁸ S. Abele and K. Frohberg, eds. 2003. *Subsistence Agriculture in Central and Eastern Europe: How to Break the Vicious Circle*. Studies on the Agricultural and Food Sector in Central and Eastern Europe. Vol. 22. Halle: Institute of Agricultural Development in Transition Economies (IAMO). <https://ageconsearch.umn.edu/record/93082>.

⁹ The Center for Policy Research estimated the annual value of foregone tax revenues at around MNT40 billion, equivalent to \$14 million in annual VAT payments due to untaxed and informal livestock product value chains. This is 10% of the total profits received by the uncontrolled and untaxed changers system, estimated at MNT400 billion (\$140 million).

¹⁰ E. Ostrom. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press.

¹¹ R. Mearns. 1993. *Pastoral Institutions, Land Tenure and Land Policy Reform in Post-Socialist Mongolia*. Policy Alternatives for Livestock Development in Mongolia. Research Report No. 3. Brighton: Institute of Development Studies at the University of Sussex. <https://opendocs.ids.ac.uk/opendocs/handle/20.500.12413/2427>; J. Suttie. 2005. *Grazing Management in Mongolia*. In J. Suttie, S. Reynolds, and C. Batello, eds. *Grasslands of the World*. Rome: FAO. <https://www.fao.org/publications/card/en/c/71c9e309-7d69-57c1-8915-f159643349ee/>.

¹² Government of Mongolia. 1992. *The Constitution of Mongolia* (with Amendments through 2001). Ulaanbaatar.

¹³ Government of Mongolia. 2002. *Law of Mongolia on Land* (amended 7 June 2002, No. 27). Ulaanbaatar. <http://www.jcm-mongolia.com/wp-content/uploads/2015/11/land.pdf>.

the Land Law has limited impact in terms of regulating the number of animals on pasturelands and ensuring animal rotation between seasonal pastures. The Law of Mongolia on Land Use Payment (1997) made the use of pasturelands and water free for herders.¹⁴

Albeit not yet passed into law, the 2018 draft Law on Pastures would represent a step forward in the management of pasturelands, dispensing with the common-use norm of pastures.¹⁵ Instead, it embraces pasture leasing according to pasture-use contracts (PUCs). Pastureland lease contracts between *soum* governments and herder groups specify that animal numbers be balanced with carrying capacity. *Soum* governments are authorized to enforce these contracts and regularly monitor the condition of pasturelands, including amending the terms of the contract to ensure balance between herd sizes and the pasture's carrying capacity.

Post-Soviet Union countries such as the Kyrgyz Republic and Tajikistan, share with Mongolia the predominance of nomadic livestock husbandry on public lands and enacted similar reforms in 1992, privatizing livestock herds on open-access state pasturelands. They also limited the number of animals allowed on public pasturelands by introducing laws on pasture management.¹⁶ The experiences of these countries indicate that lease contracts have limited success in controlling livestock inventories. First, informational resources to explain the reforms and financial support to herder groups and local governments in monitoring and enforcing limits on animal inventories were not sufficient in these countries. Second, pasture management alone cannot ensure better rural livelihoods and agricultural growth. These aims require an alternative model to the maximization of livestock inventory through a diversity of support to productivity improvements with enhanced agriculture public services.

In 2020, Mongolia introduced its livestock head tax.¹⁷ Physical and juridical persons owning livestock shall pay this tax (Article 4.1), and livestock subject to such tax shall be based on the number estimated at the end of the previous year by the livestock census organized in accordance with the Law on Statistics (Article 5.2).¹⁸ Implementation of the Livestock Head Tax Law (2020), including tax rate determination, is the responsibility of the *soum* governments. Tax rate per head may range between MNT0.00 and MNT2,000.00 (Article 6.1) to be set by the *soum* governments and *khural*s

(district councils) (Article 6.2). The livestock head tax can be an effective incentive to balance inventories with carrying capacity and ensure funding for local services for pasture management and animal health.¹⁹ Given the decentralization of decision-making in the Livestock Head Tax Law, there is a need for guidance in setting taxation rates and allocating revenues from the Ministry of Finance and the Ministry of Food, Agriculture and Light Industry.

Service cooperatives

In many developed economies, farmers typically access markets through organized self-help bodies, called service cooperatives, whose function is to correct market failures by allowing alternative access to markets without relying on private intermediaries. Service cooperatives provide an effective way of improving access of small farmers to markets in areas where private intermediaries have greater market power.²⁰ Service cooperatives can cover the whole field of market services, including joint purchasing of farm inputs, water distribution, growing or procurement of winter feed, financing of investments in cooperative processing facilities, transportation services, and negotiating the sale of livestock and crops with large processors.

In Mongolia, cooperatives can play a significant role in establishing direct sales channels for animals between herder groups and processors, allowing herders to capture a greater share of the value of meat. Concentrating animal sales in cooperatives can also make it easier to administer the livestock head tax, register animals, and examine and certify animal health by state veterinary health inspectors. However, membership in cooperatives has not grown as per government expectation—except in 2013–2016 when the number of herders joining cooperatives increased significantly. This was largely due to a government regulation providing wool subsidies to cooperative member herders. In 2020, the Ministry of Food, Agriculture and Light Industry concluded that the majority of cooperatives were not established in accordance with the cooperative law and principles. Most of them were not jointly owned by members, but by a few individuals. The majority of members (82.4%) also were not aware of any principle of the cooperatives.²¹

An improved legal environment can help herders join and benefit from service cooperatives. Although cooperatives are defined as nonprofit organizations by the Civil Code (2002),²²

¹⁴ Government of Mongolia. 1997. *Law of Mongolia on Land Use Payment* (approved 24 April 1997). Ulaanbaatar. <http://extwprlegs1.fao.org/docs/pdf/mon42188.pdf>.

¹⁵ The 2018 draft law is on hold as of August 2022 due to continuous discussion on how to regulate pastureland use.

¹⁶ Government of the Kyrgyz Republic. 2009. *Law on Pastures* (approved 26 January 2009, No. 30; and amended 10 July 2020, No. 76). Bishkek. <http://cbd.minjust.gov.kg/act/view/ru-ru/202594>; and Government of Tajikistan. 2013. *Law on Pastures* (approved 19 March 2013, No. 951; and amended 20 June 2019, No. 1618). Dushanbe. <http://extwprlegs1.fao.org/docs/pdf/taj188331.pdf> (in Tajik).

¹⁷ Government of Mongolia. 2020. *Law of Mongolia on Livestock Head Tax* (approved 13 November 2020). Ulaanbaatar.

¹⁸ Government of Mongolia. 1997. *Law of Mongolia on Statistics* (approved 5 June 1997). Ulaanbaatar. https://www.ilo.org/dyn/natlex/natlex4.detail?p_lang=en&p_isn=82783&p_country=MNG&p_count=137.

¹⁹ Article 60.2.8 of the integrated budget law indicates that livestock head tax revenues are to be spent on “improving pasture management, water supply to pastures and crop lands, protecting animal health, preventing animal contagious diseases, improving animal productivity, protecting against animal criminal acts (theft) and disasters, increasing precipitation, cropping animal fodder, establishing fodder reserves, protecting the environment, fighting against insects and rodents, and training and promotional activities for herders.”

²⁰ D. Cobia, ed. 1989. *Cooperatives in Agriculture*. Englewood Cliffs, NJ: Prentice Hall.

²¹ M. Hilliová, J. Hejkrlik, J. Mazancová, and T. Tseren. 2017. Reaching the Rural Poor through Agricultural Cooperatives in Mongolia. *Mongolian Journal of Agricultural Sciences*. 17 (1). pp. 42–48. <https://doi.org/10.5564/mjas.v17i1.726>.

²² Government of Mongolia. 2002. *Law of Mongolia on Civil Code* (approved 10 January 2002). Ulaanbaatar. <https://old.legalinfo.mn/law/details/15933>.

non-herder investors can own agricultural cooperatives in Mongolia. The Law on Cooperative (2021) made progress in imposing restrictions on distributing cooperative profits to investors, each of whom can contribute up to 15% of the capital of cooperatives.²³ However, it is still unclear as to whether cooperatives are nonprofit organizations or profit-making investor-owned enterprises. In principle, a cooperative should distribute its profits (or “surplus”) as patronage payments to its members based on their sales through the cooperative. Article 26.1 of the 2021 Cooperative Law states that “the share of the profit per member shall be settled by the general meeting based on the proposals of the Presidium and the Auditing board.” Article 28.4 states that “the topic of whether to distribute shares to the investors shall be decided at the general meeting.” An investor-owned business distributes its profits in accordance with the share of capital invested in the firm. The stipulation that the decision on how to distribute profits is left to the general meeting makes the very nature of the organization ambiguous. Another important milestone made in the VAT Law (2021) is that cooperatives are no longer obliged to pay the VAT on member products for which they act as marketing agents.²⁴ This reform puts individuals and cooperatives on an equal footing; thus, selling through cooperatives no longer puts a herder at a disadvantage.

An essential constraint on scaling up cooperatives in Mongolia is the absence of skilled managers and accountants. Capacity building was the main component of past cooperative development efforts by both government and donor programs. For example, the specialized cooperative training center established in 1998 supported around 540 cooperative trainers and 77 cooperative advisors.²⁵ Despite considerable resources spent, these efforts had limited success.

Agriculture public services

Key to supporting the shift to a more productive and value-added livestock production is strengthening agriculture public services, which encompass those provided by the government in research and extension, veterinary health and phytosanitary services, and food safety control systems. The National Mongolian Livestock Program (2010–2021) was an important effort to improve agriculture public services and create the institutional foundations for a sustainable and competitive livestock sector.²⁶ It focused on establishing an enabling legal and institutional environment for livestock development; improving the animal breeding service, including an animal registration database; creating a professional, well-trained veterinary service at the local level; developing the policy tools and underlying legislation for balancing livestock herds with carrying capacity; creating a hay and fodder reserve in every *soum* and *aimag* (province) for emergency situations; improving livestock water supply; and creating a livestock

risk management capacity. Although livestock production represented 11% of Mongolia’s gross domestic product in 2020, the Mongolian Livestock Program received only 3% of the national budget (footnotes 1 and 4).

Despite the need for the transition to productivity and quality-based production, public support for agricultural extension services declined in Mongolia. By 2010, a national extension service, as well as *aimag*-level and *soum*-level extension offices, had been established, mostly through donor funding. However, in 2015, the National Agricultural Extension Center was removed from the Ministry of Food, Agriculture and Light Industry and is treated as a self-financing commercial organization. *Aimag* and *soum* extension services do not receive public financing from either the national or provincial governments; therefore, extension as an agriculture public service in Mongolia hardly exists.²⁷ There is a need to increase public funding for extension services at the national-, *aimag*-, and *soum*-levels, as well as to provide the enabling environment to establish connections between research institutes, extension services, and farmers, using a demand-driven approach to defining needs for research and extension services (footnote 27).

Active involvement of herders in veterinary services efforts to control diseases is a vital step toward establishing agriculture public services for farmers. Without the participation of herders, government agencies are unable to control animal movements in the vast Mongolian territories, which resulted in the 2021 record-high outbreak of foot and mouth disease (FMD).

LESSONS LEARNED FROM THE PILOT MODELS TESTED IN TWO SOUMS

Since 2019, the Asian Development Bank (ADB) has been providing technical assistance (TA) to support Mongolia in strengthening herder cooperatives as a platform for addressing the challenges of building sustainable and quality-based livestock production systems. The project piloted an integrated model of herder groups and cooperatives to test the feasibility of alternative institutions in two *soums*: (i) Ulziit *soum*, Arkhangai *Aimag*, where 28 herder groups with 108 herder households (or 18% of the *soum*’s herder households); and (ii) Tumentsogt *soum*, Sukhbaatar *Aimag*, where 10 herder groups with 29 herder households and 19 individual households (16% of herder households) voluntarily participated in the project.

Implementing pasture-use contracts

The project introduced a 15-year extendable PUCs between herder groups and *soum* governors as a tool for building formal commitment of herders to reduce their livestock inventories to

²³ Government of Mongolia. 2021. *Law of Mongolia on Cooperative* (approved 6 May 2021). Ulaanbaatar. <https://old.legalinfo.mn/law/details/16583>.

²⁴ Government of Mongolia. 2021. *Law of Mongolia on Value-Added Tax* (revised). Ulaanbaatar.

²⁵ National Association of Mongolian Agricultural Cooperatives (NAMAC). 2021. Working Report. <https://asianfarmers.org/member-national-association-of-mongolian-agricultural-cooperatives-namac/>.

²⁶ Government of Mongolia. 2010. *National Mongolian Livestock Program (2010–2021)*. Ulaanbaatar.

²⁷ D. Chuluunbaatar, C. Annor-Frempong, and G. Gombodorj. 2017. *Mongolia: A Review of the Agricultural Research and Extension System*. Rome: FAO. <https://www.fao.org/3/i6571e/i6571e.pdf>.

optimum levels. As stipulated in the PUCs, herders are to gradually reduce their herd sizes at an annual rate of 5%. To compensate for this temporary loss of livestock incomes and to increase herders' off-take rates on contracted pastures, cash bonuses were given for every animal sold for meat. The project assisted the *soum* governments and herder groups in (i) deciding group membership, (ii) identifying land use boundaries, (iii) negotiating and agreeing with neighboring herders on boundaries to avoid any involuntary resettlement problems, (iv) organizing meetings to discuss herders' applications for PUCs, and (v) making sure that all female members of herder groups also signed the PUCs.

Pilot results in Ulziit *soum* show reductions in the total number of livestock in 2020 by 21.4% in sheep units of participating herder households and by 5.6% of non-project herders. Consequently, the pressure on pastures decreased from 379 sheep units per 100 ha in 2019 to 298 sheep units per 100 ha in 2020.

The pilot test also highlighted some challenges. For instance, established PUCs cover only the winter–spring pastures (footnote 13), while overgrazing and degradation occur more on summer–autumn pastures. The effectiveness of PUCs also depends on the local government's commitment to enforcing them; although, project experiences elsewhere have shown that enforcement of PUCs eventually weakens after project interventions end. Sustainable improvements in productivity on the part of herders to generate more profits require supplementary feeding, improved animal health, and proper breeding practices. But herders currently lack technical and financial capacities. As of 2019, the amount of supplementary feeding provided was only 3.8 kilograms (kg) of feed unit per sheep unit in Ulziit *soum* and 4.0 kg in Tumenstogt *soum*, much lower than the required minimum of 10.0 kg.

Establishing genuine herder marketing cooperatives

A project diagnostic study carried out in June 2020 in the two pilot *soums* found very poor economic participation of members in cooperatives. There were 12 formally registered cooperatives in Ulziit *soum* and 5 herders' cooperatives in Tumentsogt *soum*. Of these cooperatives, only two were active in Ulziit *soum* and none in Tumentsogt *soum*. Many halted operations because the government stopped channeling wool subsidies through cooperatives in 2016. Functioning cooperatives have poor governance, violate core cooperative principles, and operate like companies serving the interest of a few members who established them. Cooperative directors use personal accounts for major transactions, implying that cooperatives are part of the dominant informal economy.

The project assisted in organizing a meeting of all project-participating herder households to freely discuss potential institutional organizations including cooperative, company, and nongovernment organizations (NGO). In Ulziit

soum, the NGO option was preferred, considering its advantages under the existing legal environment, such as simplicity of establishment, tax-free status, fewer requirements for reporting and paperwork, and collective decision-making and participation of members. Ulziit Urnul Negdel, a member-based NGO, allowed the herder organization to have a legal entity status, with a bank account required for establishing sales agreements with processors and for collecting sales payments and distributing them to member-herders. The herders' NGO also collected contributions from herders to form a Livestock Risk Management Fund (LRMF), and the project disbursed revenues to herders in different forms.²⁸ In Tumentsogt *soum*, Tugslkhumbé Cooperative agreed to participate in the project pilot, by which a series of training workshops for the cooperative management and members were conducted. From these trainings, the cooperative presidium, auditing board, and chairperson were elected according to the new Cooperative Law (2021) (footnote 23). Around 48 project herder households joined the cooperative in Tumentsogt *soum*.

Among the daunting challenges in forming cooperatives was finding skilled managers and competent financial management staff. After the dissolution of collective farms, most leaders became informal changers. The engagement or commitment of any capable person to lead local cooperatives ultimately depends on how fast an enabling environment can be built for herder cooperatives.

Creating a single sales point for livestock sales in the *soum* center

The project established a livestock quality examination and certification point (LQCEP) as a single sales point at the *soum* center. The LQCEP operated in Ulziit *soum* in May 2020 for the cashmere season and in July–November 2020 for the livestock sales. Two processors who agreed to participate in the pilot project explained that they could benefit from bulk purchases of quality-certified products from a single collection point rather than collecting them individually from informal traders.

Through the LQCEP, project herders sold 1,370 sheep units to Erdenet Makh Market Limited Liability Company (LLC), with a price premium of 18.8% on top of local market prices. In addition, transporting live sheep via a 300-sheep capacity truck allowed herders to reduce transportation costs by 50%. As a result, project herders earned an additional income of MNT22,000 per sheep unit. Sales revenues were distributed from the NGO account to the members. The processor benefited from purchasing quality-certified livestock and reduced costs through the transportation cost-sharing arrangements with the herders' organization.

In May 2020, Sor Cashmere LLC, through the LQCEP, purchased 3,123.7 kg of raw cashmere, the quality of which exceeded standards. This enabled processors to save on processing costs, allowing them to pay price premiums to herders. The purchase

²⁸ Based on local development fund regulations (Budget Law), the LRMF was established with voluntary contributions from project herders of MNT500 per sheep unit and a project matching fund of MNT300, totaling MNT800 per sheep unit. The livestock head tax is proposed to take over the LRMF revenue generation scheme.

included 1,772.8 kg of cashmere from project beneficiary herders, who received MNT1,000 per kg as a quality price premium from processors (i.e., almost 2% of the 2020 market price of MNT55,000). Project herders also received LRMF-financed cash bonuses of MNT750 per sheep unit of livestock and MNT2,000 for every kg of cashmere sold through the LQECP.

Nonetheless, the project pilot of a single sales point for livestock and cashmere transactions failed to establish a sustainable model and was discontinued in 2021. For processors under the current institutional environment in relation to taxation and grading systems, the incentives to buy from individuals without quality differentiation outweigh the benefits from the single sales point. A successful single sales point model requires additional incentives such as veterinary services other than price premium for quality products.

Implementing a community-based approach in dealing with transboundary diseases

One of the fundamental barriers to scaling up Mongolia's meat exports is the high transmission risk of transboundary diseases. Frequent outbreaks of FMD and other animal diseases are consequences of the government's limited ability to control animal movements. To encourage herders to control animal movement, the project piloted a disease-free certification at herder group levels, whereby herders benefit from higher livestock sale prices if they maintain their disease-free status. A community-based approach piloted in Tumentsogt *soum* (which has a long record of FMD outbreaks) promoted herders' participation and interest in controlling animal movements to prevent the spread of diseases.

The pilot used formal pastureland use boundaries of the project herder groups and existing rules and standards for examining and declaring disease-free status. Based on field assessments and analyses of the state-certified laboratories, the Professional Council at the General Authority for Veterinary Services gave four project herder groups disease-free status certification from FMD, *peste des petits ruminants* (sheep and goat plague), smallpox, brucellosis, and tuberculosis. These certificates were issued by the *aimag* governor and delivered to the herder groups. Although the professional council members made a disclaimer that the certificates may not conform with the World Organisation for Animal Health requirements for disease-free status, the pilot community-based model still illustrates the benefits of veterinary services collaborating more with herders. Successful veterinary services programs coordinate, collaborate, and consult with herders while fulfilling their public role of maintaining a safe food supply, and controlling and planning for disease outbreaks.

Overall, the pilot models tested in two *soums* indicate that strengthening institutions such as PUCs and marketing cooperatives is an important pathway for sustainable and value-added livestock production in Mongolia. However, the lack of an enabling institutional environment, i.e., extension, training, veterinary services, taxation, and product certifications, and traceability systems, is hindering the development of cooperative institutions in Mongolia.

RECOMMENDED ACTIONS TO DEVELOP AN ENABLING ENVIRONMENT FOR MONGOLIA'S COOPERATIVE INSTITUTIONS

Strengthening incentives to enforce pasture-use contracts

The adoption and implementation of the 2018 Pasture Law can support the sustainable use of pasturelands through PUCs that specify balancing herd sizes with carrying capacity and proper animal rotation between pastures. Additional measures, though, are needed to complement the PUCs.

First, PUCs should be adequately monitored and enforced by *soum* governments. At the same time, agriculture public services such as veterinary, breeding, research, and extension services need to be enhanced to promote an alternative pathway of livestock husbandry livelihoods based on productivity improvements. The newly introduced livestock head tax can be a source of funding for the monitoring and enforcement of PUCs and the enhancement of agriculture public services. Clear guidance should be given to *soum* governments on the level of the livestock tax based on the feeding requirement of different types of livestock, as well as on the use of livestock head tax proceeds to support agriculture public services for herders. Budget transfers to *soum* governments can also be an alternative source of funding for livestock public services. These transfers should prioritize *soum* governments who are successfully implementing the PUCs.

Second, PUCs should be obligatory for all users and cover not only winter-spring pastures but all seasonal pastures. Thus, *soum* governors should establish PUCs for all herders, not only for those who make voluntary applications. Herder groups should sign contracts and implement them with the concurrence of their members.

Third, the sustainable management of pasturelands will benefit herders through the higher slaughter weight of livestock. It will also provide an opportunity to reduce greenhouse gas (GHG) emissions from soil carbon sequestration. A voluntary carbon credit market should be developed for herders to allow them to sell credits for their contribution to reducing GHG emissions. The carbon credit market scheme will create a strong incentive to implement PUCs. It can also be an important source of funding, a channel for monitoring the enforcement of pasture use, and a means for enhancing public services for herders.

Fourth, a reduction in herd sizes is needed to achieve balance with pastureland's carrying capacity, which will require an initial increase in off-take rates. Increasing animal sales at an initial stage may lead to transitory lower prices. Moreover, it will take time for pastures to be regenerated to support better nourishment of the remaining animals through lower stocking rates. Herders could experience a temporary reduction in income until they can benefit from the increased animal slaughter weight. To maintain herder incentives for increasing off-take rates, it may be necessary to extend

provisional cash bonuses for herder sales. A portion of the livestock head tax revenues can be used as cash bonuses to compensate for the temporary loss of farm income.

Fifth, the pilot project reveals that herders are willing to pay fees or taxes if revenues are spent locally on addressing the problems herders face. The recently introduced livestock head tax should function as a pasture-use fee to cofinance the (i) maintenance of pasture infrastructure (salt licks, livestock corridors and transhumant tracks, winter and spring shelters, water sources, etc.) and rehabilitation of degraded pastures, with maintenance services provided by either users or state agencies; and (ii) adequate supplies of fodder or grass to feed herds during winter and as they rotate between pastures. In transhumant systems in other countries, these supplies are at least partially paid for through pasture user fees, with maintenance services provided by either users or state agencies.

Providing an enabling legislative basis for agriculture service cooperatives

The Cooperative Law (2021) and the VAT Law (2021) made significant progress in enhancing the enabling environment for service cooperatives by limiting the distribution of profits to investors and putting cooperatives on an equal footing in the VAT system. However, the regulations on the distribution of cooperative profits and taxation can further be improved.

Article 26.1 of the Cooperative Law (2021) states that cooperative profits shall be distributed based on proposals of the management team (presidium) and the auditing board. Changing the wording of this article to indicate that “profits shall be distributed to members based solely on the share of the value of products sold through the cooperative” would substantially improve the clarity of the law in support of service cooperatives. On the other hand, if the returns for investors are computed as a fixed percentage return (dividend payment) that is not part of the residual profit, cooperative financial planning can be facilitated since the cooperative would know in advance its obligation and can duly plan for it. More specifically, Article 28.4 on how to remunerate cooperative investors shall read that “an investor earns a return on his investment in the form of interest payments, the rate of which shall be agreed upon by the cooperative general assembly.” Interest payments are expenses, not profit shares, of the cooperative. Distribution of profits according to capital investment shares is the hallmark of an investor-owned firm and should be taxed.

The VAT Law was amended so that processors who purchase animals and fibers from cooperatives are not obliged to pay taxes.

This brings the VAT status of cooperatives in line with that of individuals—neither are expected to collect VAT on their sales. A further amendment in the VAT law can offer an additional incentive for sales through cooperatives by providing for value-added taxation on sales from individuals. Changers and processors would be required to pay the VAT at the single mandatory sales point when purchasing from individuals. Along with the mandatory sales through a single sales point in *soum* centers, such a reform can ensure animal health inspection and traceability leading to a safer food supply, more efficient collection of VAT from changers and processors, and the establishment of quality-differentiated sale prices for animals and fiber. It would also discourage hand slaughtering of animals and prompt informal changers to join cooperatives or become agents of processors.

Establishing formal marketing institutions

The informal intermediary system of livestock product sales is a constraint for quality-differentiated prices, proper animal traceability, health inspection, registration, and taxation. Transitioning to improved productivity and a more quality-driven livestock sector requires formal market institutions, where herders can obtain fair and transparent prices, food safety can be ensured, and taxes collected. A single sales point can be set up in each *soum* center to ensure the traceability of animals for food safety and taxation. At the single sales point, animals offered for sale are registered and assessed for quality, state veterinary officials conduct health inspections, and taxes are collected. A standard basis for live animal pricing categories (such as thin, medium, or well-fed) can be established through the quality and health inspection of the veterinary authorities. Enhancing extension and other agriculture public services through the single sales point would benefit the herders and increase incentives to market through formal marketing channels.

In addition, the Mongolian Agricultural Commodity Exchange (MACE) should enhance its price discovery and commodity standardization functions by mandatory quality grading and pricing (see box). Amending the Law on Agricultural Commodities and Raw Materials Exchange (2011) should also be considered to mandate sales according to internationally recognized cashmere or wool grades, as assessed by licensed graders at agricultural commodity exchange warehouses.²⁹ Sales through the MACE by cooperatives can be exempt from VAT; whereas sales by individuals or traders through the MACE can be subject to VAT. Furthermore, the MACE should explore the establishment of a warehouse receipts system, where participants can obtain bank loans using commodities stored in a warehouse.

²⁹ Government of Mongolia. 2011. *Law of Mongolia on Agricultural Commodities and Raw Materials Exchange* (approved 2 June 2011). Ulaanbaatar. <http://extwprlegs1.fao.org/docs/pdf/mon186050.pdf> (in Mongolian).

Assessment of the Mongolian Agricultural Commodity Exchange

According to the Law on Agricultural Commodities and Raw Materials Exchange (2011), the Mongolian Agricultural Commodity Exchange (MACE) was created to (i) improve herders' income through the establishment of a centrally located, regulated market for commodities according to uniform quality standards; and (ii) increase the supply of raw materials to national processing industries by ensuring services for market information, quality inspection, certification of laboratories, transportation, warehouse storage, insurance, and banking.^a However, the MACE had limited success in achieving these goals. Not only was its introduction accompanied by a significant fall in the producer share of the MACE price for cashmere (from 70% in 2013 to 54% in 2019), but there was also no quality inspection conducted at the MACE.

In general, the focal function of an agricultural commodity exchange is to provide price discovery according to standardized grades. Grading reduces transaction costs by alleviating the buyer's need to inspect

each batch of products sold to establish product quality; otherwise, there is little utility of trading through the exchange. Currently, the MACE does not provide price discovery function according to standardized grades because the majority of transactions takes place off the exchange as individually negotiated contracts. This sets the exchange apart from the 23 largest exchanges surveyed by the International Food Policy Research Institute (2015), all of which trade in quality-graded commodities.^b

Cashmere trade accounts for around 90% of the MACE transactions. An agricultural commodity exchange that provides price discovery by trading in quality-graded cashmere might support more quality-oriented cashmere production. Amid the backdrop of an uncontrolled growth of goat inventories in Mongolia—degrading the grasslands and increasing the risk of desertification—the MACE needs to urgently strengthen and develop its price discovery function.

^a Government of Mongolia. 2011. *Law of Mongolia on Agricultural Commodities and Raw Materials Exchange* (approved 2 June 2011). Ulaanbaatar. <http://extwprlegs1.fao.org/docs/pdf/mon186050.pdf> (in Mongolian).

^b S. Rashid. 2015. *Agricultural Commodity Exchange and Market Development: What Have We Learned?* Paper prepared for the International Food Policy Research Institute for the 29th International Conference of Agricultural Economists. Milan, Italy. 8–14 August.

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