



Survey on the Domestic and Export Meat Value Chain in Mongolia



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This report has been edited externally.

UNCTAD/DITC/COM/INF/2021/10

Acknowledgements

This document was prepared by Anuujiin Gantulga, UNCTAD consultant. The author would like to thank Romain Perez, Rodrigo Carcamo, Justin Van de Ven, and Janvier Nkurunziza from the UNCTAD Commodities Branch, Division on International Trade and Commodities for their very valuable comments on earlier versions of this paper.

The author also thanks Munkhtuguldur Batnasan, UNCTAD consultant, for conducting a field survey of the meat value chain in the Arkhangai, Dornod and Tuv provinces of Mongolia in May-November 2020, as well as Bolormaa Lkhagvasuren from the Ministry of Foreign Affairs of Mongolia, Battogtokh Ish-ochir from the Meat Association of Mongolia, and Battur Purevdorj from the Mongolia General Customs Administration for their assistance.

This report has been edited by Mr. David Einhorn.

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Abstract

This report analyses Mongolia's meat value chain for exports. Using tailored survey data from across Mongolia, the report carries out three tasks. First, it identifies and analyses the different roles played by the main stakeholders in the meat value chain: herders rearing livestock, middlemen aggregating and carrying out transport of livestock from remote areas to meat processors, and larger meat processors carrying out processing and exporting. Second, it analyses the bottlenecks in the meat value chain. In this regard, the analysis highlights the role of the government in boosting the sector through holistic policy changes ranging from ensuring the health and quality of livestock to helping processors negotiate trade deals with international buyers. Third, based on the findings, the report discusses a series of policy implications to improve the functioning of the value chain and benefits to stakeholders. This report complements the market analysis of key destination markets for Mongolian meat exporters conducted under the same project umbrella ("Integrating Landlocked Commodity Dependent Countries into Regional and Global Value Chains").

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Acronyms

FAO	Food and Agriculture Organization of the United Nations
GASI.....	General Authority for Specialized Investigation
GAVS.....	General Authority for Veterinary Services
HACCP	Hazard Analysis Critical Control Point
ISO	International Organization for Standardization
MCGA	Mongolian General Customs Administration
MMA.....	Mongolian Meat Association
MNCCI	Mongolian National Chamber of Commerce and Industry
MoFALI.....	Ministry of Food, Agriculture and Light Industry
OECD	Organization for Economic Cooperation and Development
SCVL	State Central Veterinary Laboratory
TIR.....	Transports Internationaux Routiers
UNCTAD	United Nations Conference on Trade and Development

1. Introduction

1.1 Objective

In 2018, the United Nations Conference on Trade and Development (UNCTAD) launched a project titled “Integrating Landlocked Commodity Dependent Countries into Regional and Global Value Chains” to support integrated value chain development in four landlocked countries primarily through the agri-food sector. The project has already studied activities in Ethiopia, Lao People’s Democratic Republic, and Uzbekistan. Mongolia is the fourth and final country to be studied. In 2018, Mongolia derived nearly 25 per cent of its GDP from mining and quarrying activities, and for a variety of reasons increasing meat exports is a viable way for the country to diversify away from mineral commodities and become a more integrated part of the regional and global economy.

The purpose of this report is to understand in greater detail the current state of Mongolia’s meat export sector, including the challenges and constraints affecting the sector, and to provide recommendations for the sector in order to stimulate discussions among the key stakeholders in the country. The report presents a country-level survey and interviews key stakeholders in the meat value chain to determine the structure of that value chain downstream. Additionally, it identifies the value added by each stakeholder in the chain, challenges faced by exporters, and current demand for meat. Information collected will be used to support ongoing official efforts to strengthen the meat value chain for exports in Mongolia.

1.2 Methodology

This report covers an analysis of the Mongolian meat value chain using business process analysis developed by the United Nations. This methodology allows for understanding the current business process, identifying challenges and issues, and suggesting policies that can improve the efficiency and effectiveness of the process at every stage of the value chain. Furthermore, the report includes extensive literature reviews and documents, including reports produced by the various donor organizations such as the Food and Agriculture Organization of the United Nations (FAO), World Bank and Asian Development Bank. To gain a deeper understanding of the sector, the report draws on data from Mongolia’s National Statistics Office and General Customs Administration. Finally, multiple field visits, interviews and consultations were conducted with value chain players over the past several months to gain insights regarding the dynamics, trends and challenges of the meat market.

1.3 Survey respondents

Respondents involved in the meat value chain are herders, middlemen, meat processing plants and logistics companies. The selection of herder households to be interviewed was based on their geographic locations and herd size. Based on a total of 233,000 herder households in the country, 168 herders were selected for survey analysis. For meat processing facilities,¹ the following selection criteria were used: type of meat products, production capacity, ability to export, and capacity to export. The report included data from 14 meat exporting companies out of 119 registered countrywide. Interviews were conducted with middlemen in the country's biggest wholesale food market, Khuchit Shonkhor.

1.4 Summary findings

The following conclusions can be drawn from this study of Mongolia's meat value chain sector.

1. The meat value chain is going through some developmental changes. In particular, efforts by the government of Mongolia to boost meat exports have been accompanied by the gradual development of a legal framework and support for commercialized livestock production. These changes are producing both positive and negative impacts for the sector that are closely related to business operations in Mongolia.
2. Several trends can be observed based on the changes occurring in the sector. In the domestic retail and consumer markets, there has been a gradual shift in consumer preference towards commercially produced meat products. Furthermore, a growing number of qualified meat producers have established meat processing facilities across Mongolia in response to continued high demand for Mongolian meat from China and the Russian Federation, in addition to rising interest from other countries, such as Viet Nam, Japan, and the Islamic Republic of Iran and other Muslim countries.
3. The export potential of Mongolian meat producers continues to face headwinds. In the public sector, direct government intervention by the Ministry of Food, Agriculture and Light Industry (MoFALI) has placed export quotas on strategic resources such as livestock. The ministry's decision was based on a political commitment to stabilize domestic meat supply, which oftentimes is prone to misallocation. Furthermore, inefficient regulatory procedures for export permission pose issues for exporters.
4. While many modern meat processing facilities are being established and equipped for meat exports, the input side of the value chain is still worrisome for most processors. Livestock health issues remain a major concern today

¹ In this report, the term "processing" includes all the steps involved in turning a live animal into meat for sale.

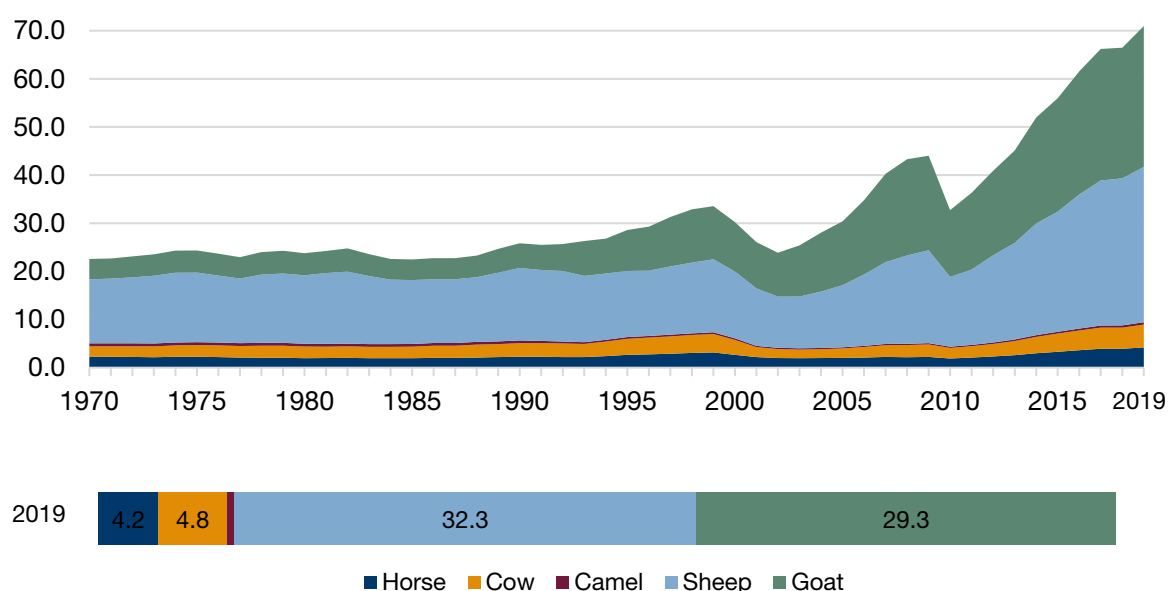
for meat value-chain actors. Also, pasturelands in Mongolia face overgrazing issues.

5. The long-term goals for the sector are to increase the quality and value of processed and unprocessed livestock products and expand export volumes to importing markets. Maximizing the sector’s potential will require enabling the right policies to attract and incentivize domestic meat value chain actors, as well as improving resource management.

2. Meat sector overview

Historically, the livestock population in Mongolia has hovered around 20 million animals (figure 1). According to the FAO, the Mongolian economy has been mainly agriculture-based, with citizen herders. During the Soviet era between 1960 and 1990, the state collectivized livestock herders through the establishment of a system called *negdel*. Herders were organized into brigades and then into smaller groups called *suuri*. During this period, herders were salaried and allowed to own a certain number of animals.

Figure 1 Mongolia: Historical herd population, 1970–2019 (millions of livestock heads)



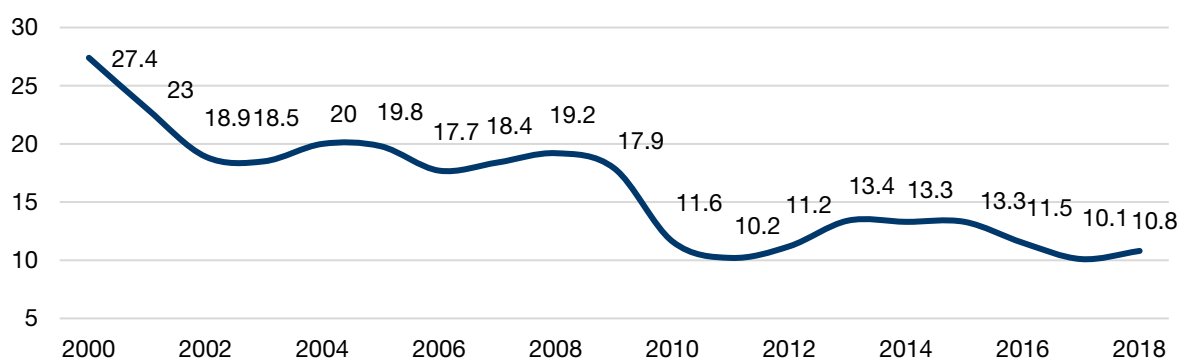
Source: National Statistics Office.

In 1991, after the emergence of a free market and privatization, the government-managed commercial system was dismantled. With implementation of the free-market system, Mongolia went through an economic transition that affected the entire economy, including the meat value chain.

The cornerstone of the Mongolian economy is an agricultural sector based on livestock such as goats, sheep, camels, horses, and cattle. In 2018, animal husbandry in Mongolia produced approximately 80 per cent of total agricultural output, accounting for almost 10.8 per cent of GDP (figure 2). Also, 26.7 per cent of total employment in the country is in the animal husbandry sector, according to the National Statistics Office, so this industry is the core source of those livelihoods. Until 1990, the agriculture sector produced between 30 and 40 per cent of GDP. Since then, that share has decreased significantly due to economic growth in other sectors and environmental disasters (figure 2). In 2019, 233,000 of the 897,400 total households in Mongolia had animals, and of these, 171,600 were herding households, according to the National Statistics Office.

The population growth of goats and the cashmere market are relatively connected to one another (figure 3). As the global demand for warm and soft wool remains high, the goat population in Mongolia increased from 19 million in 2009 to 29 million in 2019, according to the National Statistics Office. Mongolia produced 774 tons of cashmere in 2019, estimated to be worth approximately US\$481 million, an increase of 24 per cent from the previous year. Almost 60 per cent of Mongolia’s total cashmere sales are washed cashmere, while only about 18 per cent of cashmere sales are end products. The biggest importer of Mongolian cashmere is China. In 2019, a kilogram of cashmere sold at US\$54.7 in Mongolia, almost 15.00 US\$/kg more than in 2018.² For many households, cashmere is their main source of income.

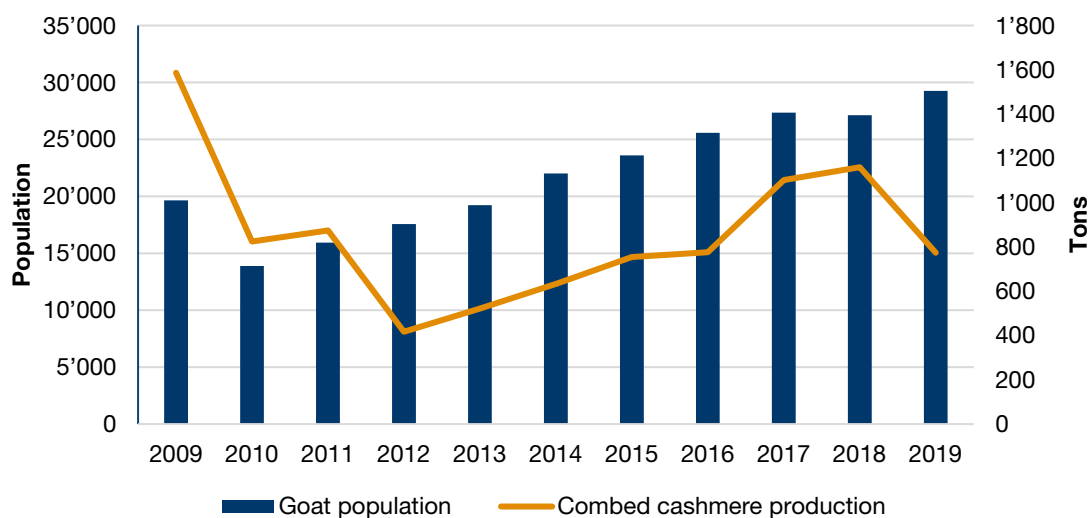
Figure 2 Mongolia: Agriculture as a share of GDP, 2000–2018 (per cent)



Source: National Statistics Office.

² See the Schneider Group at <https://www.gschneider.com/market-indicators/> (accessed 5 November 2021).

Figure 3 Mongolia: Goat population and cashmere production, 2009–2019



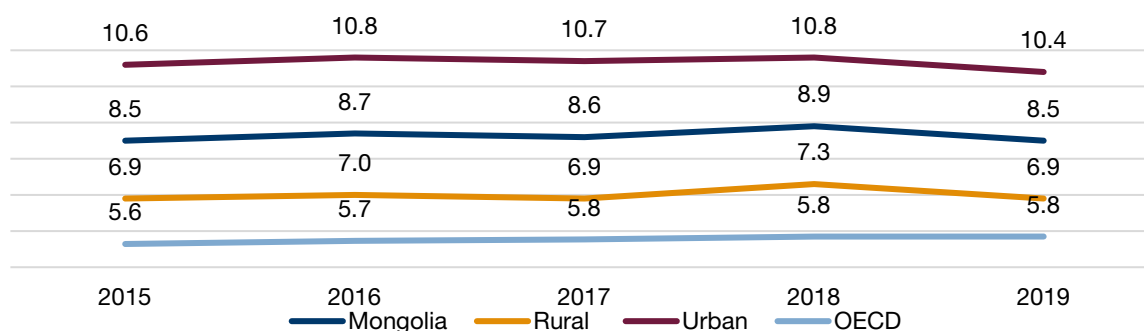
Source: National Statistics Office.

These statistics show that the Mongolian economy and population are still dependent on animal husbandry, thus it is important to increase livestock productivity and yields.

2.1 Domestic meat consumption

In recent years, Mongolia’s improved purchasing power and living standards have affected the demand for meat products. In 2019, average monthly consumption of meat and meat products per capita in Mongolia was 8.5 kilograms, while average monthly meat consumption in Organization for Economic Cooperation and Development (OECD) countries was 5.8 kilograms per capita (figure 4). Mongolia’s appetite for meat presents an opportunity for the sector to be commercialized.

Figure 4 Average monthly consumption of meat and meat products per capita in Mongolia and the Organization for Economic Cooperation and Development, 2015–2019 (in kilograms)



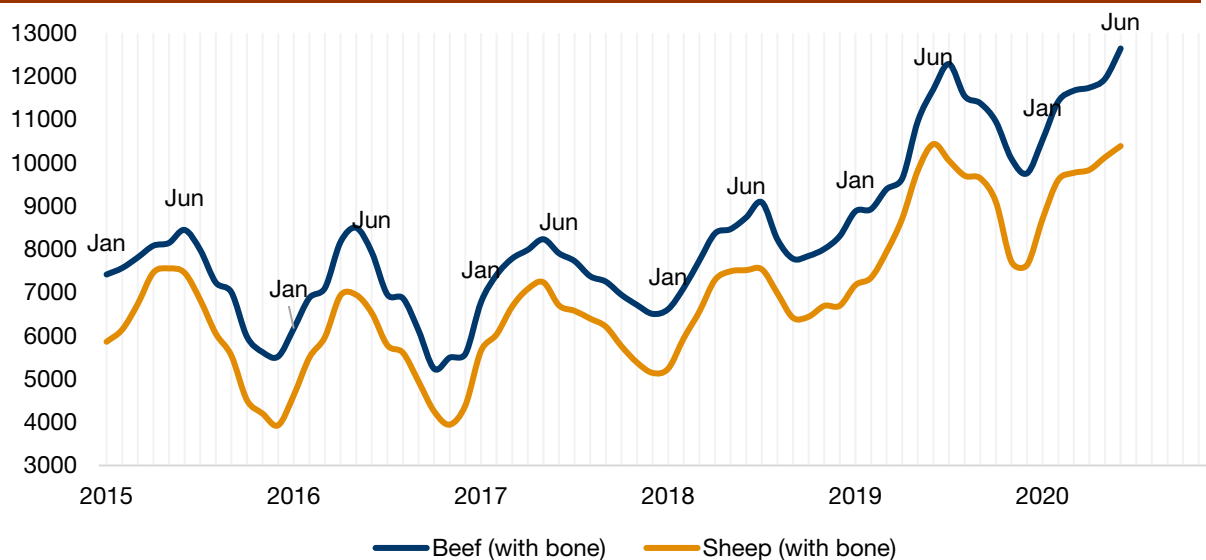
Sources: National Statistics Office; and Organization for Economic Cooperation and Development (OECD).

Currently, most Mongolians purchase their daily meat products through informal trade channels, buying carcasses or live animals from personal connections such as friends and family. This traditional way of purchasing involves low food hygiene standards. However, with the ongoing process of rapid urbanization, there are growing trends towards higher-quality meat products in local consumer markets such as restaurants and retail chains.³

2.2 Price volatility

In Mongolia, meat price fluctuation occurs for several reasons, including seasonal price changes due to supply and demand for livestock, imported inflation due to exchange rate depreciation, and meat exports. With respect to seasonal prices, herders typically restrict the sale of animals in the spring so as not to limit their potential growth that year, resulting in a low meat supply and an increased price. Seasonal price fluctuation has been on average 36 per cent over the last three years (figure 5), with 80 per cent of the barriers to the meat business caused by supply problems. The price of meat falls between July and November. The drop in the price enables meat processing plants and middlemen to stock the carcasses in order to sell them later during the higher-price period of the year, when supply of fresh carcasses is low.

Figure 5 Monthly meat price in Mongolia, by type, 2015–2020 (in MNT)



Source: National Statistics Office.

³ As an example, firms such as Xanadu Razorback Ltd. have seen a business opportunity in the market and offer Mongolian consumers Western beef cuts.

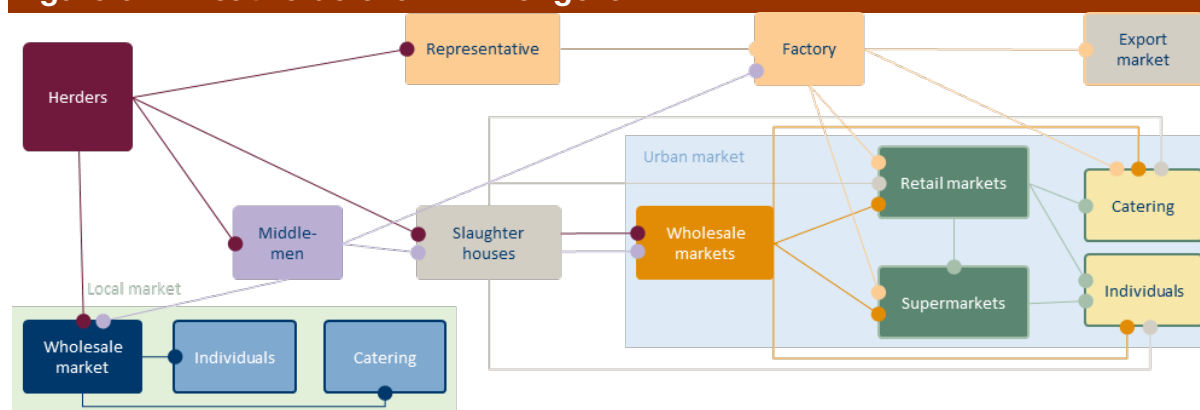
3. Mongolian meat exports and value chain

3.1 Value chain stakeholders

To ensure food safety, the meat value chain is governed by a complex and evolving set of regulations (figure 6). The meat product is no different from other perishable foods, and stakeholders involved in the meat value chain must follow local and international rules and regulations. In Mongolia, the meat value chain involves herders at the initial stage as producers, followed by middlemen, slaughterhouses and meat processing plants. Lastly, meat is retailed in domestic markets through food markets and supermarkets, and also exported to international markets. The Mongolian meat value chain is formed by thin-margin products, generating a small difference between the producer price and the retail price. Nonetheless, the size of operations in the meat value chain will vary and each value chain carries distinct relationships under different conditions of the business climate, infrastructure and logistics.

Mongolia's commercialization of livestock production has boomed since the government successfully promoted its growth by means of expanding exports of meat products. Although Mongolia exports only a small amount of meat to its neighbouring countries, Mongolian meat exporters are striving to become a major supplier of meat to China and the Russian Federation. Evidence shows that some meat processing companies export meat not only to those two neighbouring countries but also to faraway countries such as Viet Nam and to some Muslim countries, including the Islamic Republic of Iran and the United Arab Emirates.

Figure 6 Meat value chain in Mongolia



Source: Prepared by the author.

3.2 Herders and livestock

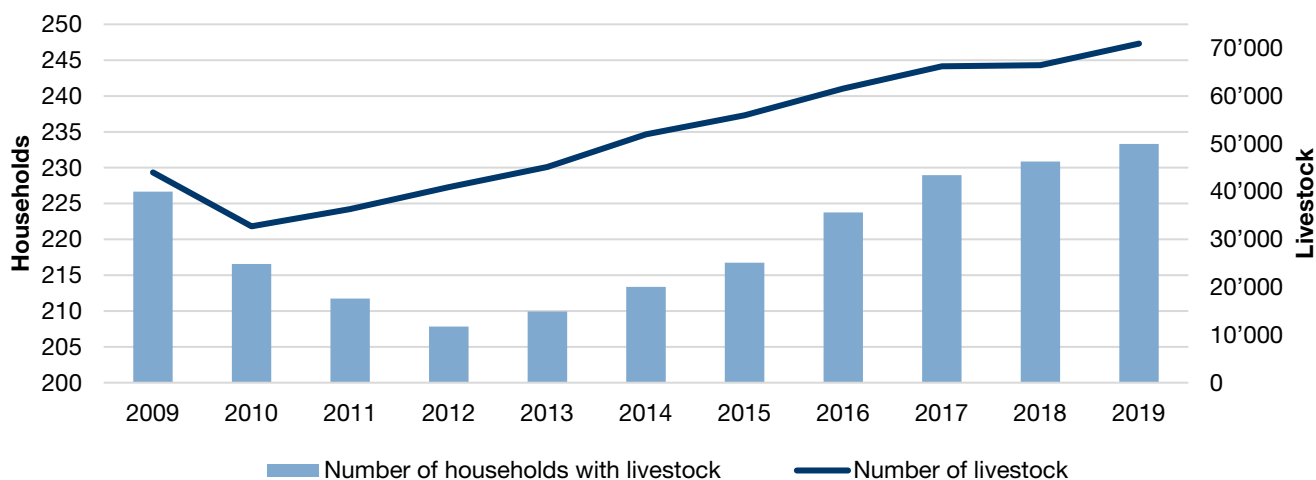
Mongolia has always had a very high livestock per capita ratio. According to the preliminary results of the annual livestock census conducted by the National Statistics Office, the livestock population reached 70.9 million in 2019 (figure 1), triple

the amount in 1990. This translates to a livestock per capita ratio of 22.7, while countries like Kazakhstan and the Russian Federation have ratios of 2.48 and 0.44, respectively. The livestock ratio excludes the camel population, as camel meat is not popular in these countries.



According to Mongolia’s 2019 national census, there are 233,300 households with livestock, and 70.9 million livestock animals. Both these figures have grown since 2009 by 3.1 per cent and 61.2 per cent, respectively (figure 7). The uniqueness of Mongolian livestock meat is that animals are raised on pastureland, which constitutes 76 per cent of Mongolia’s land (Swiss Agency for Development and Cooperation 2018).

Figure 7 Mongolia: Growth of livestock and households with livestock, 2009–2019 (in thousands)



Source: National Statistics Office.

Among herder households, herd size varies. According to the National Statistics Office, 21 per cent of herder households have less than 100 head of livestock; 53 per cent have a herd of between 101 and 200 animals; and 24 per cent have a herd of between 201 and 500 animals. All herders are subject to environmental risks such as climate change and overgrazing, and herder households with a smaller number of animals are more likely to be affected than households with larger herds (World Bank 2017). Herders with a substantial number of livestock are more likely to make a profit by selling surplus animals to meat producers.

Herders in Mongolia are price takers, and the prices they receive for their products are affected by different factors. First, there is insufficient communication infrastructure in isolated parts of Mongolia. Depending on the region, some herders have no cell phone reception and struggle to communicate with meat processors to get a date for slaughter.⁴ Therefore, many herders travel many kilometres, often on foot, transporting their animals, only to hear that processors are fully booked or have no room to keep animals in the fences. In order to make the trip financially worthwhile rather than returning home with their livestock, which will deteriorate in value, herders are willing to trade livestock at a lower than usual market price. This is especially true during the peak seasons. A second factor affecting prices is that herders with a smaller size herd size may struggle to sell animals during high price periods, as doing so involves higher transportation costs if herders can only bring a few heads at a time due to the fixed minimum size of trucks.

A study carried out by the United Nations Partnership for Action on Green Economy analysed the ongoing overgrazing issues coupled with occasional *dzud* (extreme winters) and drought and found that these events are likely to add more burden for herder households and, subsequently, their potential to export (United Nations 2019: 3). More than 90 per cent of total livestock husbandry feed is provided from natural pastureland in Mongolia.⁵ Pastureland is a vital public asset that is given for free, creating a well-known problem known as the “tragedy of the commons⁶.” Unfortunately, the consumption use of pastureland is higher than its ecological capacity:⁷ the number of livestock in 2018 exceeded pasture capacity by over 25 million sheep and goats, according to the MoFALI. The National Statistics Office reports that Mongolia has 110.5 million hectares of pastureland, and as of 2018, 57 per cent of pastureland was classified as degraded (Swiss Agency for

⁴ Interviews with survey respondents conducted for this report.

⁵ Interviews with survey respondents conducted for this report.

⁶ “Tragedy of the commons” refers to a situation where individual users who have shared access to a resource unhampered by formal rules act according to their own self-interest and contrary to the common good, causing depletion of the resource through their uncoordinated action.

⁷ Interviews with survey respondents conducted for this report.

Development and Cooperation 2018). Pasture degradation is most severe in Arkhangai, Bulgan, Tuv, Dundgovi and Selenge provinces.

Many of these households make a living from other sources of agricultural income. A field survey found that 52 per cent of herder households earn additional income by selling cashmere.

Without proper management of pastureland, the nutrient composition of soil gets depleted, which further worsens animal nutrition and greatly impacts the animals' weight. In the survey conducted for this report, 81 per cent of herder respondents said that weight is the primary factor for evaluating the quality of produce. From 2012 to 2017, livestock weight dropped by 17.7 per cent in Mongolia.⁸ In order to compensate for the lower weight per animal, and given the "free" nature of pastureland, some herders have increased their herd size, further depleting the common pastureland resource.

According to Mongolian animal husbandry tradition, the slaughtering age of any livestock is deemed appropriate when the livestock produces offspring. Frequently, herders slaughter older livestock, aged 4 or 5 years. This constitutes a delay in slaughtering livestock, given that, according to the FAO, it is accepted among global meat producers that excellent beef comes from cattle under the age of 36 months, sheep and goat meat from animals under the age of 6 to 12 months, and horse meat from animals under the age of 16 to 24 months.

Furthermore, in the survey conducted for this report, herders commented on the decreasing carcass weight year by year. They said that there is a limited genetic selection of breed to improve the yield. Data collected by Bayarbaatar and Tuvaansuren (2002) between 1980 and 2001, confirms that the average weight of sheep, goat and cattle has dropped by approximately 4 kg, 2 kg and 10 kg, respectively (figure 8). The authors argue that the decline in weight is caused by climate change. According to the National Statistics Office, 29.5 per cent of total livestock were slaughtered in 1990, and this ratio dropped to 20.6 per cent in 2016 as a result of a slowdown in livestock production and a rise in livestock amounts.

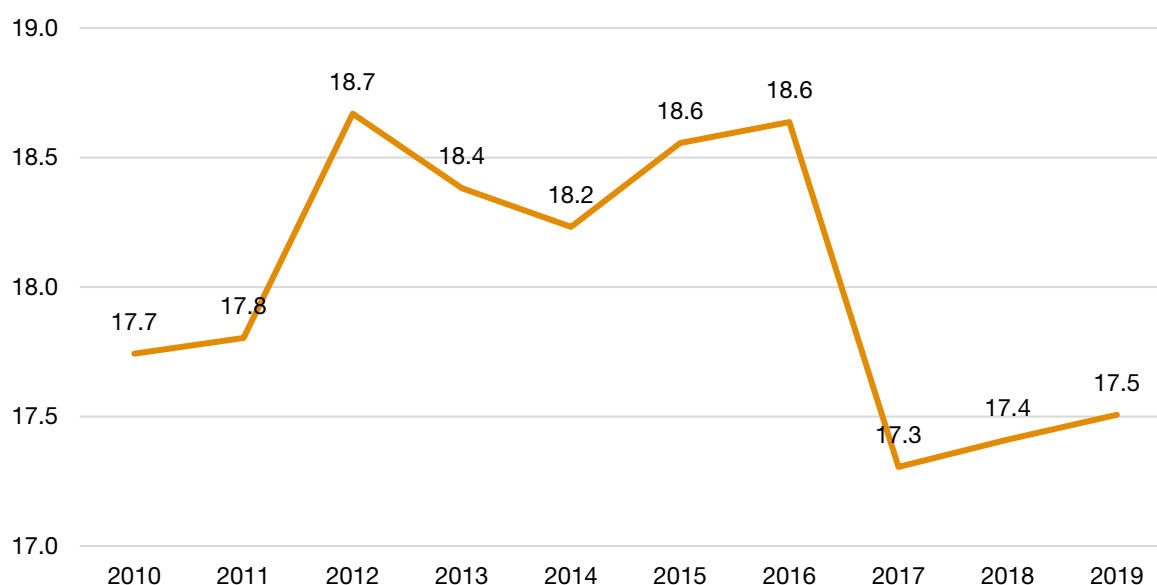
In order to reduce the impact of livestock mortality on herders, the government of Mongolia and the World Bank have successfully initiated the index-based Livestock Insurance Program (Mahul and Skees 2006). However, despite a variety of public awareness activities to promote the insurance product, only 7.4 million or 10 per cent of animals have been insured, according to the National Statistics Office. Depending on the risk level of soums,⁹ insured herders get an indemnity that helps the herder households restock and maintain their livelihoods. Increasing the number of insured

⁸ Author's calculations based on data from the National Statistics Office.

⁹ Soums are a local level of government in Mongolia.

herders could play a significant role in preventing unemployment in the livestock sector.

Figure 8 Mongolia: Average livestock weight, 2010–2019 (in kilograms)



Source: Prepared by the author based on information from the National Statistics Office.

Note: Converted to the sheep count using a coefficient from National Statistics Office.

In addition, herders are susceptible to financial risk. The National Statistics Office estimates that one-third of herder households live below the poverty line. Of the total number of herders, 40 per cent have taken out loans. For these households, the decision to sell animals is based on their short-term household needs such as their children’s school fees and medical bills. During the off season, herders get consumer loans from banks, paying high interest rates ranging from 15 to 21.6 per cent depending on the loan type and collateral, according to the Khan Bank. Herders then pay back the loans during cashmere sales in spring and livestock sales in autumn.

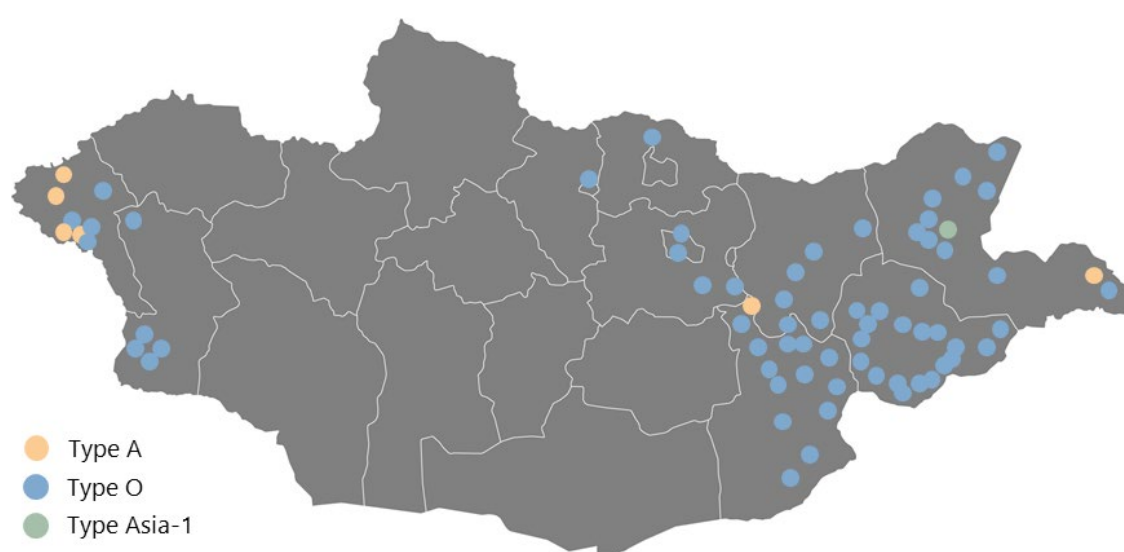
Most herders have limited access to financial institutions, especially in isolated soums. The survey conducted for this report found that 40 per cent of herder families rely on informal credit services from middlemen. Usually, there is a verbal agreement between a herder and a middleman. In the transaction, middlemen offer forage and/or cash to herders on the promise of buying livestock at a lower market price.

Some wealthy herder families own means of transportation and have established contacts with middlemen and meat processing companies. Their decision to participate in the marketplace is a function of distance to market and logistical costs. The survey conducted for this report found that approximately 62 per cent of herders transport their livestock. Of those, 41 per cent said they own their vehicle. These families have an option to cut off services provided by middlemen, conducting business with meat processing companies directly.

3.2.1 Livestock health

The relationship between herders and livestock in Mongolia involves constant contact, which in turn brings risks. Free-range livestock in the vast land of Mongolia are susceptible to various diseases from other wild animals. Foot-and-mouth disease, which has gained attention internationally as a viral, localized and non-zoonotic pandemic, is the most well-known constraint for Mongolian meat exporters. The most recent foot-and-mouth disease outbreak was in May 2020 in Arkhangai aimag (figure 9).^{10, 11} Prior to that incident, the last outbreak was in 2018.

Figure 9 Map of occurrences of foot-and-mouth disease in Mongolia, 2000–2016



Source: Veterinary and Animal Breeding Agency.

Generally, the government of Mongolia is responsible for the control of infectious diseases. Previous outbreaks of foot-and-mouth disease mostly also occurred in eastern border aimags, ultimately requiring endorsement by the World Organization for Animal Health of the Mongolian government’s national plan to address the disease in 2016. The national plan focused on establishing foot-and-mouth-free zones with vaccination in central and western aimags by 2020. Specific eastern aimags were also to be designated as foot-and-mouth-free with vaccination. It is important to note, however, that the focus should not only be on foot-and-mouth disease, as there were 440 cases of other internal infectious diseases reported in Mongolia during the first half of 2019, according to the General Authority for Veterinary Services (GAVS). This accounts for 40 per cent of the total number of infectious disease outbreaks. Of the

¹⁰ Aimags are a local level of government in Mongolia.

¹¹ Order of the Governor of Khaikhan Soum of Arkhangai Aimag.

reported diseases, 18 per cent of cases were for ecthyma and 17 per cent for rabies, according to the GAVS.

To prevent foot-and-mouth disease, in 2017 the government of Mongolia vaccinated 14.2 million livestock belonging to 60,900 herder households in 188 soums of 20 provinces. The government also vaccinated 10.3 million livestock in 160 soums of 20 provinces in 2018.¹²

Herders bear the costs of other infrequent vaccinations. Incentives for herders to invest in disease control were higher when there was an increased export volume of meat. Unfortunately, many animals are still not vaccinated due to the low volume of meat trade and shortages of vaccines. Controlling outbreaks of diseases such as foot-and-mouth is difficult and consumes significant financial resources, and the state budget is often insufficient. In addition, in the survey conducted for this report, herders expressed uncertainty about the effectiveness of vaccines. While most herders surveyed said they vaccinate their animals, some said that vaccines are difficult to find, and that vaccine origin and quality information is often unavailable.

The cost of veterinary services in Mongolia is impossible for herders to bear if they are to run profitable businesses. For example, the service cost per sheep per year is MNT (Tugrik Mongol) 50,000. Even though the service is welcomed by most herders, the price is not affordable for them, so herders without veterinary training end up self-providing such services. It is common practice for herders in rural areas to buy medicines and vaccines from the livestock pharmacy on their own and inject their livestock. This practice is clearly sub-optimal, as it involves several risks, not just for the individual herder, but for the whole region, as animal health is a public good.

As part of the government of Mongolia's effort to effectively control animal diseases, the Animal Health Law took effect in 2018. The law supported a restructuring to transfer the veterinary sector from privatized entities to the public service sector under the supervision of the government (Ch 2018). This change is important for Mongolia to have a healthy status relative to several livestock diseases, in turn allowing for the supply of good quality meat domestically and to export markets. The GAVS is responsible for veterinary activities. Since passage of the above law, veterinary services have been available for herders at every soum center. As of 2020, however, veterinary certificates were not yet issued electronically.¹³

According to the Animal Health Law, livestock is considered a national asset and subject to state protection. Accordingly, the state offers financial compensation for herder families if there is an emergence of contagious diseases in the national herd.

¹² Interviews with survey respondents conducted for this report.

¹³ Veterinary Department of Bayan-Undur Soum.

Legally, if animals have been killed due to a contagious disease outbreak, the state compensates 90 per cent of the animal market price.

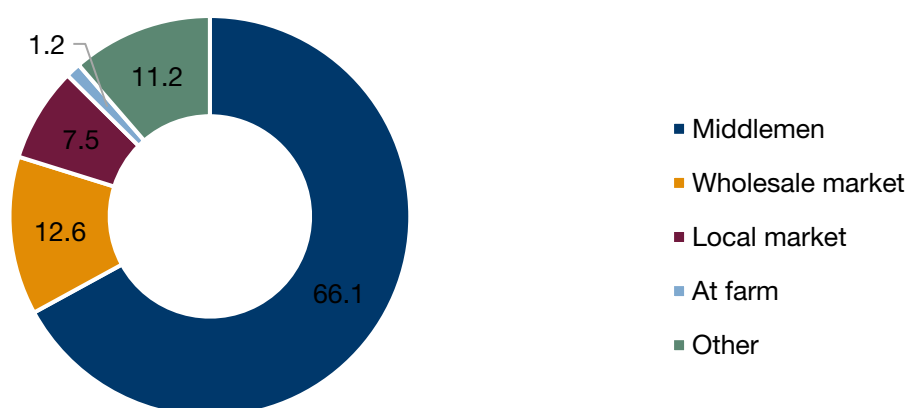
3.3 Trade representatives

There are not many trade representatives in the Mongolian meat value chain. Interviews with companies for this report came across two – Makh Impex LLC and Darkhan Meat Foods LLC – that employ trade representatives to collect livestock from herders. Essentially, trade representatives offer the same services as middlemen, such as purchasing and delivering livestock on behalf of the company, the only difference being that they have a more formal employment arrangement with the hiring company. According to the companies, the position is seasonal. Some trade representatives who used to be middlemen were able to take on the formal position based on years-long relationships with the companies.

3.3.1 Middlemen

Middlemen play an important role in the meat value chain, as shown in figure 10. They create a steady flow of animals and serve as a central point of communication between herders and processing companies. There are two types of middlemen: one who brings livestock from multiple herders and coordinates the sale of the animals with processors, and another who buys livestock within the wholesale market, such as the Khuchit Shonkhor market, and resells it to retail markets such as smaller supermarkets and stores. Middlemen are able to establish and maintain a business relationship with processors because they have access to more up-to-date market information through their wide range of business networks, and because they can perform such duties as picking up and delivering animals in a timely manner.

Figure 10 Survey question: Where did you sell livestock in 2019? (per cent)



Source: Prepared by the author.

Wholesale markets are largely informal. It is difficult to know precisely how many middlemen are engaged in the business. However, interviews conducted for this report identified roughly 120 middlemen actively working in the Khuchit Shonkhor market. It is interesting to note that middlemen are currently viewed from several different perspectives by herders, meat processing facilities, and the government. Included among these perspectives are views of them as greedy exploiters of herders and as rural citizens who evade taxes.

Although such descriptions may well apply to some middlemen, these assertions encourage misdirection of the sector's development. Findings from the survey conducted for this report suggest that middlemen are simply service providers filling a gap in the market by connecting isolated herders with buyers. In the survey, 66 per cent of herders said they give their livestock to middlemen because the herders themselves are unable to bring their animals to processors.

Although middlemen have been accused of being partially responsible for the recent domestic meat price increase, it is unlikely that this price change was solely caused by them. According to one interview, the profit margin of middlemen is MNT 50-100 per kilogram, which is significantly lower than the estimate made for this report, which ranged between MNT 150 and MNT 400 per kilogram. The biggest expense for middlemen is their rent at the Khuchit Shonkhor market, which can range between MNT 400,000 and MNT 600,000 per month. Before paying the entry fee to the Khuchit Shonkhor, which ranges between MNT 10,000 and MNT 35 000 per truck depending on the truck size, middlemen must have a Certificate of Origin and Khuchit Shonkhor veterinary's food safety confirmation. The Certificate of Origin is digitalized and contains the origin of livestock.

There are a growing number of herders who own trucks and bring their livestock to the wholesale market themselves. In most cases, middlemen bring 30-100 live animals on pick-up trucks around midnight to the slaughterhouses in the Nalaikh and Emeelt areas. After the animals are slaughtered, carcasses are transported in either refrigerated or non-refrigerated trucks to the Khuchit Shonkhor market, where wholesalers buy the meat. Middlemen mostly use refrigerated trucks during the summer season, while some middlemen choose to use non-refrigerated trucks during the winter as the carcasses remain frozen during the trip. Typically, the trips from herder to slaughterhouse to wholesale market are carried out by the same middlemen.

The relationship between herders and middlemen varies. Some herders have formal business relationships with middlemen, while others trade with middlemen from the nearest soum and aimag. Middlemen mostly take into account the weight of the animals, price, and any visible signs of disease symptoms. Middlemen are also involved in the distribution of animal feed. To be able to cover the transportation cost

of returning home, middlemen bring hay and forage from Darkhan to their respective soums. It is inevitable that more and more herders will rely on forage going forward. This suggestion was clear to see from the on-site survey analysis. Almost all the respondents answered that overgrazing is an issue. Currently, herders purchase just a bare minimum amount of hay and forage to get through the winter. As the sector intensifies, herders will rely more on hay and forage in order to shorten the period from farm to table.

Furthermore, companies surveyed for this report revealed that it is impractical to omit the services of middlemen from the value chain. When the meat processing season starts, the processing plants purchase live animals and/or carcasses from the nearest available sources. Therefore, companies have to rely on middlemen services to fetch the livestock. The qualities of effective middlemen are generally described by companies as good communication skills, flexible business terms such as faster response time for unexpected demand, and on-time delivery of livestock.

3.4 Slaughterhouses

To create, maintain, and expand a functioning business requires large investments. It is also a complex and high-risk business, marked by thin profit margins. Building even a very small facility requires a considerable amount of investment. To be able to recover the initial investment, companies of all sizes require government support in such forms as financial solutions, insurance and trade negotiations to help them succeed in the international market. Before entering the market, processors need to feel confident about the ability to generate profits, so it is necessary to evaluate demand and supply factors. From the demand side, it is clear that the world is hungry for meat, with demand for protein increasing in parallel with increasing income, while from a supply standpoint, some herders are looking to turn the country's 70.9 million head of livestock into wealth.

In 2003, the city of Ulaanbaatar prohibited bringing live animals into the city. This resulted in all the slaughterhouses that once were in the city to be relocated. Now, slaughterhouses are primarily concentrated in areas in the Nalaikh and Emeelt districts on the outskirts of the city, where today there are 24 slaughterhouses operating. According to the Mongolian Meat Association, the number of slaughterhouses in Mongolia grew from 48 to 70 between 2016 and 2020.

There are two types of slaughterhouses in the Emeelt and Nalaikh area. The first is equipped with semi-automated slaughtering machines that can process a large number of livestock per day. The other is traditional slaughtering using hand techniques in which the only tool is a knife. Both types of slaughterhouse follow the same steps of slaughtering: stunning, skinning, eviscerating and cleaning.

The finished products in the semi-automated slaughterhouses are carcass halves or quarters, which go into a cooler for immediate chilling. Slaughterhouses do the steps in-house in one building, with a slaughter floor, cutting room, and coolers for carcasses. The finished product is then transported by middlemen in a refrigerated Porter truck for further processing or to retail and wholesale markets for immediate consumption. It is also common to use non-refrigerated trucks in the winter to deliver meat products.

Surrounding the slaughterhouses in Nalaikh and Emeelt area, there are livestock markets where individual customers can select animals of their choosing by comparing size and examining the health of the animal. The traditional slaughterhouses serve these individual customers, enabling purchasers to ensure the quality and request specific cuts. Each livestock head requires 20-30 minutes and costs between MNT 30,000 and MNT 40,000 to slaughter. A purchaser may decide to also take the animal skin and internal organs, though they are usually left behind.

Livestock that is brought to these slaughterhouses is primarily prepared for consumption by Ulaanbaatar residents. Most of these slaughterhouses are affected by the seasonal supply of livestock. The slaughterhouses are most active during the summer and fall seasons. Herders can display their livestock in a fence and buyers can choose the animals and do self-health checks on them. Then buyers pay MNT 4,000 per head of sheep or goat and MNT 10,000 per head of horse or cattle. It usually takes on average 30-40 minutes to slaughter an animal. During the cold season, herders don't need to take animals on foot to slaughterhouses because they can rely on the natural cold weather to slaughter animals outside of their sheds.

With the take-off of meat exports since 2017, many slaughterhouses see opportunities to make profits. These slaughterhouses invest surplus income in expanding their operation to meat processing facilities, refrigerated trucks, and cooled storage units. Some slaughterhouses that are located in the countryside do have a formal trading agreement with big meat processors to supply meat. According to the executive director of the Mongolian Leather Industry Association, for 14 million livestock slaughtered for food supply in Mongolia per annum, it is estimated that only around 10 per cent are slaughtered at designated slaughterhouses (UNIDO 2019). If slaughterhouses are properly regulated to follow food hygiene standards, they could gain important market shares, to the detriment of the traditional processing of livestock into meat.

3.4.1 Processing plants

In 2019, Mongolia's total meat production was 545,000 tons, according to the National Statistics Office. Although Mongolia experienced rapid growth of its livestock population, the country exported less than 10 per cent of its potential meat

handling. This is because meat importing requirements vary from country to country. For instance, China requires meat to be processed through a heat-treated method. The Islamic Republic of Iran imports meat according to Halal standards, while the Russian Federation and Kazakhstan import frozen carcass meat. Meat importing requirements in Mongolia's main five markets (China, the Russian Federation, Kazakhstan, Japan and Viet Nam) are discussed in detail in the second volume of this report.

Currently, less than 10 per cent of the total meat processing companies in Mongolia have successfully introduced international standards. The most commonly accepted international standards among meat producers are Food Safety System Certification (FSC) 22000, International Organization for Standardization (ISO) 22000, and Hazard Analysis Critical Control Point (HACCP) standards. Among the well-equipped and qualified meat processors are Makh Impex LLC, Darkhan Meat Foods LLC, Trust Trade LLC, Khangain Khuns LLC, Khuns Complex LLC and Mongol Market LLC. Makh Impex is the oldest of all meat processing companies in Mongolia.

Interviews with companies revealed that adopting international standards has improved their prospects of finding international buyers, supplying a consistent quality of meat products, and retaining business partners. As a result, many companies subsequently invested excess revenue to scale processing facilities in connection with export market opportunities due to the lower price of Mongolian meat in the global market. According to the Mongolian General Customs Administration, the top eight meat exporters in terms of volume in 2019 were:

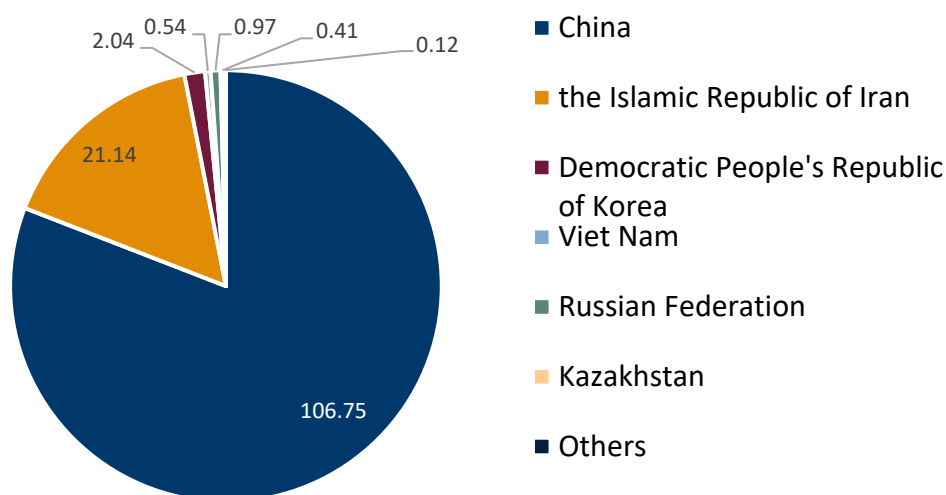
- | | |
|----------------------------|-------------------------|
| 1. Makh Impex LLC | 5. Greengrass Land LLC |
| 2. Mongolmakh Expo LLC | 6. Mongol Ekomakh LLC |
| 3. Jargalant Max Impex LLC | 7. Tes Shim Cooperative |
| 4. Sayan-Uul LLC | 8. JXCS LLC |

Schild (2017: 4) points out that Mongolia's meat sector suffers from the seasonal nature of the business discussed earlier. Consequently, many meat processors are unable to utilize their facilities at full capacity.

In 2019, Mongolia's biggest trading partner was China, which imported horse, sheep and goat, and bovine meat (figure 12). Besides China, the second biggest importer of Mongolian goat and sheep meat was the Islamic Republic of Iran, constituting 15 per cent of total meat exports. Statistics from the customs office shows that the demand for meat imports from Muslim countries has been growing. Accordingly, Mongolian meat processors are adopting Halal standards and are willing to enter these new markets to benefit from higher Halal meat prices. The government of Mongolia also has been able to establish trade channels with some Central Asian countries such as

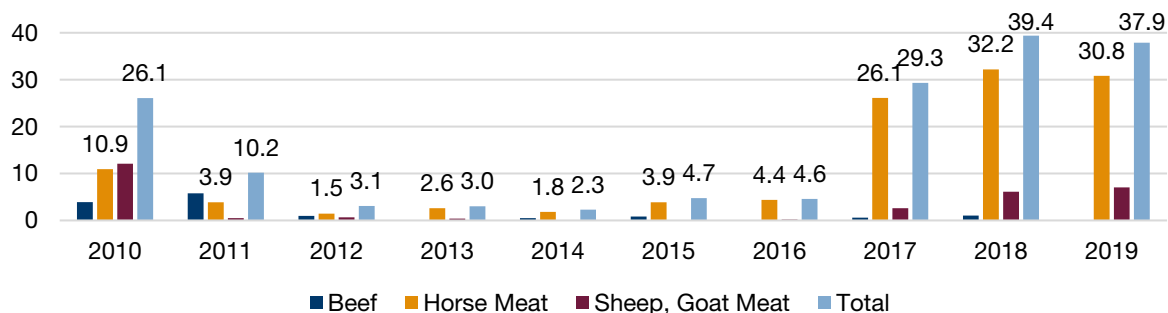
Kyrgyzstan and Uzbekistan. The increasing trade relationships with importing countries bring opportunities for many meat exporters (figure 13).

Figure 12 Mongolian meat exports (millions of United States dollars)



Source: Mongolian General Customs Administration.

Figure 13 Mongolian meat exports, by type, 2010–2019 (thousands of tons)



Source: General Customs Administration.

3.4.2 Structure of leading companies

The Ulaanbaatar region is the centre for Mongolia’s meat production, with more than half of the processing companies located there.

Makh Impex LLC was founded in 1946 with the technical and economic assistance of the Soviet Union. Today, the company employs over 300 workers, and its slaughterhouse has the capacity to slaughter large and small livestock and produce meat products such as sausage, frozen burger meat, and dumplings. In 2016, the

company introduced the latest packaging technology from the Multivac and Textor companies in Germany. It also introduced a new vacuum packaging technology, which lengthens the shelf life of the product by up to 60 days. According to data obtained during an interview with company officials, the firm's main identified strengths are its large production capacity, know-how in the business, and reputation. Weaknesses identified during the interview are infrastructure deficiencies within the slaughtering plant that require a significant amount of investment in order to expand and qualify for HACCP certification, and high operating costs.

Darkhan Meat Foods LLC was established in 2003 and exports to Kazakhstan, Uzbekistan, Viet Nam and Malaysia. The company specializes in preparing meat and meat products according to Halal, HACCP, and Chinese Certification and Accreditation Administration requirements. Its main strengths identified during an interview with company officials are the existence of an effective quality management system and good infrastructure conditions for production. Weaknesses identified are a lack of skilled labour and a large share of manual butchering in production.

Another leading company that offers a wide range of products is Trust Trade LLC, which sells smoked sausages, pre-cooked meat products, and packaged meat cuts. Founded in 2000, the company now has Food Safety System Certification (FSSC) 22000, HACCP, and ISO 22000 certifications. The company does not have a slaughterhouse, but that service is performed by a contracted slaughterhouse. The firm's main strengths identified during an interview with company officials are good knowledge of the local market and low operating costs, as it outsources the slaughtering process. Weaknesses identified are problems related to recovering receivables, competing informal wholesale markets, and a lack of adequate marketing and promotional activities.

3.4.3 Product control

Meat processing companies recognize that the quality of meat is essential to production performance. Effective companies have identified and introduced the relevant regulations and certifications and have formulated compliance strategies related to production and operations. The requirements of quality management are well described in guidelines and standards such as HACCP, ISO 9001: 2000, and ISO 22000, as well as Good Manufacturing Practices. Having one or some of these standards in place brings quality assurance to buyers. From the interviews conducted for this report, HACCP is the most common food practice code. HACCP is a systematic approach to the identification, evaluation and control of all food manufacturing steps that are critical to food safety.

Two other popular standards among Mongolian meat processors are the ISO and Halal. The standards have been developed to achieve uniformity in products and to avoid technical barriers to trade. This standard helps to establish a quality system of

overall activities and handling procedures by following the clear instructions of responsibilities and authority. As defined in the Koran, Halal food maintains the traditional value in Islamic law. The Islamic form of slaughtering livestock involves killing by cutting the large arteries in the neck. During the process, a Muslim imam will recite a dedication.

Only a few meat exporting companies meet the requirements of the above-mentioned standards, while others operate solely under Mongolian meat product standards, as follows:

- MNS 1-1:2006 Mongolian standardization system
- MNS 1-2:2006 Mongolian standardization system
- MNS 1815:1973 Processed intestines of sheep and goats
- MNS 5023:2001 Basic hygiene requirements for meat and meat products
- MNS CAC 1:2007 Requirements for labelling of packaged products
- MNS CAC 192:2007 General requirements for food additives.

The monitoring of quality performance is an integral duty for meat processors. This includes a direct measurement that is done by visual inspection of shape and colour as well as sampling and laboratory testing. A company called Tsaluut Impex LLC has an in-house laboratory to conduct quality checks on micro-bacteria, toxic compounds and physical agents. Nonetheless, meat exporting companies are all required to send samples of meat to the State Central Veterinary Laboratory for further quality assurance.

By abiding by these standards, companies are able to meet required product characteristics such as nutritional value, processing and hygienic qualities. Currently, the most commonly exported meat products from Mongolia are frozen carcasses and heat-treated meat. Generally, frozen carcass horse and beef are exported to the Russian Federation. There are also a few companies such as Khangain Khuns LLC that produce and export canned meat to the Russian Federation. China usually imports heat-treated sheep and goat meat products. Interviews with meat exporting companies suggest that Chinese importers are willing to buy goat meat more than sheep meat because goat meat has more lean meat. On the other hand, Iranians prefer to import sheep meat. Sheep meat must come from young male sheep ages 1 and 2 or female sheep that have not given birth.

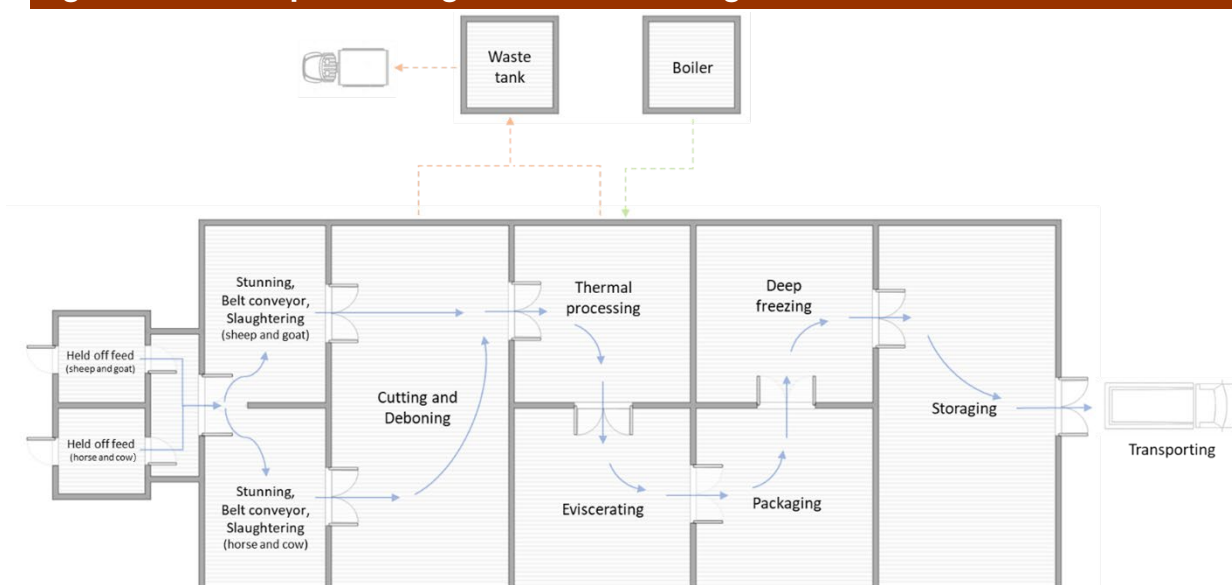
3.4.4 Essential facilities and technologies

In Mongolia, there are no producers of equipment for meat processing and slaughtering. Most production machinery and equipment is imported and companies themselves are responsible for servicing and maintaining their machinery (figure 14).

Most recently established processing plants have the entire process in one building, preventing exposure to contamination and bacteria. The flow of the process within a building is appropriate and recommended by HACCP. Some of the old processors whose buildings were built during the Soviet era lack these integrated processing facilities. The total capacity of processing facilities per day in Mongolia is 36,320 small animals and 7,830 large animals (table 1).

In meat processing, not many steps are automated. Livestock differs in size and weight, resulting in reliance on the hand-cut method. The most commonly used meat processing machines include cutting, chopping and comminuted. Comminuted refers to meat that is chopped and shredded into small pieces prepared to be placed into cans or containers. In slaughterhouses, circular saws and blade saws are used for carcasses. Very few processors use electric stunners and movable conveyers to hang the bodies of slaughtered animals. The cutting rooms mostly involve hand-cutting by labourers using knives for skinning and surface treatment of cadavers. There are many different knives used, including boning, sticking and skinning knives.

Figure 14 Meat processing workflow in Mongolia



Source: Prepared by the author.

The heat-treated method is a requirement of the government of China for Mongolian meat exporting companies to reduce the growth of bacteria. Heat-treated meats are prepared by immersing the meat in large cooking pots containing hot water at a temperature above 90-95 Celsius. The meat is cooked for from 45 minutes to an hour and a half. One processor interviewed for this report said his company uses a cooking pot that can contain 1.2 tons of meat. The processor also said that the company's heat treatment facilities include half an automated conveyor basket to submerge the meat into a hot cooking pot. The benefit of having the conveyor is that it reduces work hazards, such as people getting burnt in hot water or slipping.

Another piece of equipment commonly used by meat exporters is the vacuum packaging machine. Most heat-treated meat must be cooled prior to the packaging stage. The advantages of vacuum sealing the meat products are that it protects against contaminants and increases storage life. Packaging materials for meat products such as plastic bags and carton boxes are almost exclusively procured from China.

Table 1. Meat production capacity per day in Mongolia

Total number of processors	Location and number		Processing capacity (per head)		Storage capacity (tons)	
	Ulaanbaatar	Aimags	Total, sheep and goat	Total, horse and cattle	Freezing	Cooling
120	74	46	36,320	7,830	2,184	72,080

Source: General Agency for Specialized Investigation.

Companies also need to have personal protective equipment for workers. All employees who are handling foodstuffs must wear work-clothing and protective wear that meets hygienic requirements, including a suit, bouffant caps, apron, steel toe boots, boot covers, gloves, heat resistant gloves, disposable gloves, vinyl sleeve and earplugs.

3.4.5 Storage

Meat products must be stored in cooled and refrigerated units. Of the 120 currently registered meat processing plants in Mongolia, 83 per cent have their own storage facilities with capacities ranging from 30 to 1,500 tons of meat (table 1). The rate for meat storage depends on the season as well as the length of the period. Cooling units primarily use Freon liquid to refrigerate. The Freon can be bought at the market in tanks.

Mongolia’s agricultural activities are hindered during the long winter. However, the climatic zone can also be beneficial, as it serves as a natural refrigerator. Many herders usually slaughter their livestock in the autumn when the animals are fattened. Starting in autumn, the ground remains cold, which enables the herders to store the meat in their sheds. However, to export meat commercially, this method of storing meat is not recommended, as proper storage can more definitively prevent spoilage.

Recently, many players in the value chain have bought storage facilities across Mongolia. While most meat processing companies do have storage units within their facilities, some middlemen have started purchasing cold storage facilities for carcasses and meat products at food markets such as Khuchit Shonkhor. The price of meat is at its lowest during autumn, which is when many meat processing plants and middlemen buy and store carcasses.

3.5 Distribution and logistics

3.5.1 Delivery of livestock and meat products

Since companies usually receive live animals and slaughter them in an industrial environment, live animal transport dominates domestic meat transportation. When herders are in charge of transporting their livestock, they usually use pick-up trucks known as Porter, Bongo, and Mighty to transport up to 30 sheep and goats or up to 5 cattle and horses at a time.¹⁴ Due to the poor road infrastructure in Mongolia, transporting animals in inappropriate vehicles may cause injuries to the animals. In some cases, animals can be transported on foot by people, even though the animals may lose weight due to the distance. Some people provide such services for a fee. According to the Executive Director of the National Road Transport Association of Mongolia, it is required that carcasses and processed meat products be transported using refrigerated trucks.¹⁵ The most commonly used refrigerated truck in Mongolia is the refrigerated version of the Porter. Middlemen use either pick-up trucks or bigger trucks that are known as *shalanz* and can carry around 120 livestock per run.



Pick-up Porter and Shalanz trucks. Source: North Benz.

3.5.2 Buyers

Meat transportation is particularly dependent on the cold chain, since slaughtered and processed meat has a limited storage life. In Mongolia, the most common

¹⁴ Interviews with survey respondents conducted for this report.

¹⁵ Interviews with survey respondents conducted for this report.

transportation mode for meat products in refrigerated trucks. There are 18 transport companies that own 160 refrigerated trucks with a Transports Internationaux Routiers (TIR) certificate, which proves that the product exported conforms with relevant standards and regulations of the TIR Convention. In particular, the TIR system facilitates trade and transportation, border crossing, customs declarations (only at departure and destination points), simplified and harmonized customs guarantees and procedures, and risk management and information safety.

According to the National Road Transport Association of Mongolia, the following companies have TIR certificates:

- | | | |
|-----------------------|--------------------------------|-------------------------|
| 1. Nord Trans LLC | 7. Khar Anar LLC | 13. Montrans Auto LLC |
| 2. EZU Trans LLC | 8. Montir Trans LLC | 14. Navi Star Trans LLC |
| 3. Karport LLC | 9. Suld Logistics LLC | 15. TTGJ |
| 4. Batkhuld Trade LLC | 10. Forever Zuun Trans LLC | 16. Mongol Hurd LLC |
| 5. Baka Trans LLC | 11. Oros Gerel LLC | 17. Ikh Ayni Joloo LLC |
| 6. Dulguun Trans | 12. World Management Group LLC | 18. Instant Trans LLC |

Mongolia has established 16 intergovernmental agreements for transporting goods. The countries with which these agreements have been established are the Russian Federation, China, Kazakhstan, Kyrgyzstan, Ukraine, the Democratic People's Republic of Korea, Belarus, Latvia, Hungary, Turkey, Lithuania, Poland, Germany, Czechia, Georgia and Slovakia. The agreements permit a truck to enter and exit these countries to move goods.

Furthermore, the trilateral Intergovernmental Agreement on International Road Transport and the Asian Highway Network involving Mongolia, China and the Russian Federation took effect in 2019. This agreement enables the countries to connect territories by allowing access to traffic rights for international road transport operations on portions of Asian Highway routes AH3 and AH4.

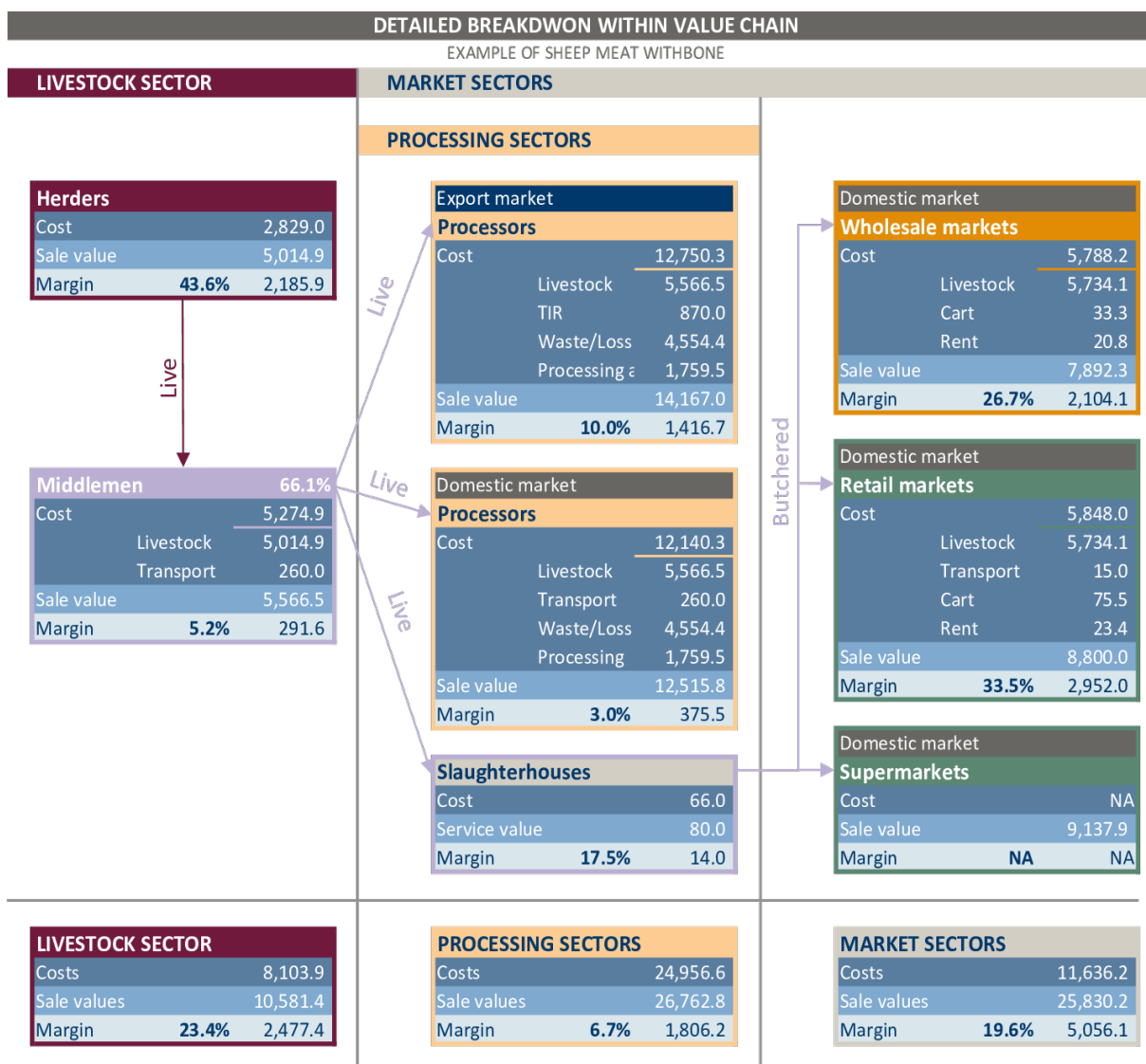
As of 2020, the Mongolian General Customs Administration had established an order that meat exporting companies transport their products via a carrier accredited by the administration. A carrier accredited by the Customs Administration has two types of rights: permission to carry out TIR transportation and a permit from a customs-authorized carrier.

3.6 Meat value distribution

In recent years, much attention has been given to increasing export volume, while there have been few and largely ineffective attempts by policymakers to change the terms of inclusion in the downstream value chain. This section aims to determine the

costs and profitability of different stages in the value chain in order to understand the cost composition and measure trade competitiveness (figure 15).

Figure 15 Detailed breakdown within the value chain: Example of sheep meat with bone (amounts in MNT)



Source: Prepared by the author.

Note: TIR: Transports Internationaux Routiers.

According to the research for this report, herders sell animals at a live weight of approximately 45-50 kg for sheep and goats and 230-250 kg for horse meat and beef to either middleman or directly to meat processing facilities.¹⁶ The purchase price of animal live weight is determined by middlemen and meat processing companies.¹⁷

¹⁶ Interviews with survey respondents conducted for this report.

¹⁷ Interviews with survey respondents conducted for this report.

The field survey conducted for this report found that, in 2019, the average market price of a live horse was MNT 5,110 per kilo, a live sheep MNT 5,015, a live goat MNT 4,040 and live cattle MNT 5,250.

Information from the field survey was not complete enough to allow for directly calculating profit margins. However, previous work provides some information on this point. According to the Swiss Agency for Development and Cooperation (2018), average yearly revenue of Mongolian herder households in 2017 was MNT 10.5 million, and livestock and meat-related sales made up 39 per cent (MNT 4.1 million) of that total. As also stated in the Swiss study, herder households' average yearly expenses were MNT 10 million, and livestock-related expenses (including animal feed, fence repair, veterinary medicine, and an assistant herder's salary) were MNT 2.3 million, which is 23.2 per cent of total expenses. This suggests that herders have a profit margin of 43.9 per cent from the sale of livestock and meat.¹⁸

Middlemen serve as a central point of communication between herders and processing companies: 66 per cent of herders surveyed said they give their livestock to middlemen because they themselves are unable to bring animals to the market. Middlemen buy livestock at a price of (i) MNT 5014.9 per kilo (sheep meat), and incur a transportation cost of (ii) MNT 260 per kilo. Middlemen sell their livestock at a price of (iii) MNT 5,566.5. Although, middlemen interviewed said that they add from MNT 50 to MN 100 per kilo to the total cost, the findings of this report suggest that they operate with a profit margin of $(iii - ii - i)/iii = 5.2$ per cent, which is MNT 292 per kilo.

Processors' payments to herders are based on the weight of the animal when it is alive. During the processing procedure, the carcass is stripped of its skin, blood, and offal, resulting in live weight loss of 52 to 58 per cent. The chilling process also contributes to weight reduction.¹⁹ This weight loss accounts for roughly 31 per cent of the total exporting price for a local meat processor. Other costs will include processing (12 per cent of the exporting price), and transportation with a TIR certificate (6 per cent). According to interviews with smaller processors, the buying quota from the secondary market makes up to 50 per cent of the exporting price. According to processors interviewed for this report, their sales in the export market have a profit margin of up to 10 per cent, which is 7 per cent higher than the domestic profit margin of 3 per cent. In general, the cash conversion cycle is long. Companies buy, process, freeze and load their livestock, wait for necessary paperwork, transport the livestock to the border, and stop at the importing countries' customs.

Since Ulaanbaatar has prohibited bringing live animals into the city, slaughterhouses in the outer region of the city are in demand. Those interviewed from slaughterhouses

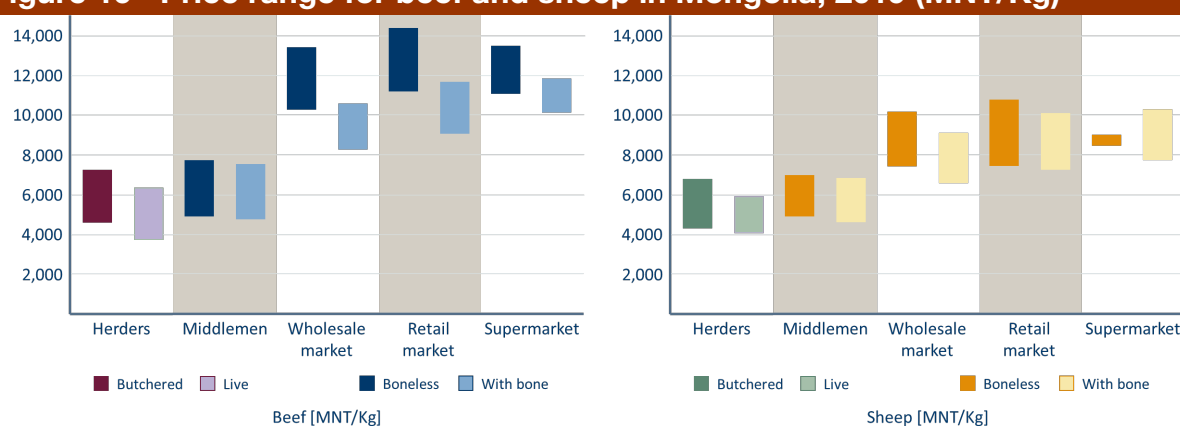
¹⁸ Calculated as $(4.1 - 2.3)/4.1 = 43.9$ per cent profit margin.

¹⁹ Example of sheep meat price.

at Emeelt, where the slaughterhouses are primarily concentrated, explained that slaughtering is a highly seasonal business and does not operate in the winter/spring months. Their slaughtering fee is MNT 4,000 per sheep and goat, with a profit margin of 18 per cent, and MNT 20,000 per horse and cattle, with a profit margin of 25 per cent. Labour costs account for 82.5 per cent of the total cost, with 61 per cent of the labour cost for butchers, 30 per cent for offal cleaners and 9 per cent for carriers. Other costs include disposal of animal feces, blood, bone, fat, animal trimmings, paunch content and urine from operations or areas for lairage, stunning or bleeding, or carcass processing (MNT 5 million a month).²⁰ Middlemen only take carcasses and usually leave or sell intestines, by-products, fur and hides for MNT 1,000 to the slaughterhouses, which covers most of the costs other than labour.

Those interviewed from slaughterhouses suggested that nearly all of the livestock that they slaughtered is sold at wholesale markets (Khuchir Shonkhor) and retail markets in Ulaanbaatar. Herders bring the carcasses to the Zakh, and each wholesaler buys on average 50 to 60 sheep and goats and 2 cattle or horses from them. They sell livestock from 8 AM to 6 PM on trucks or at butcheries. In most cases, there are no leftovers at the end of the day. If there are, they are stored in the Freon-fueled rental refrigerators. Wholesalers' additional costs other than livestock will include small costs for rent and carts, allowing them to operate with a profit margin of 26.7 per cent.²¹ Price formation in the wholesale market is hugely dependent on supply at that time. As the middlemen explained, prices fluctuate between MNT 500 to MNT 600 per kg a day based on how much livestock enters the market.

Figure 16 Price range for beef and sheep in Mongolia, 2019 (MNT/Kg)



Retailers' costs will include the cost for transportation from wholesale to retail markets (MNT 12000 per run from Khuchit Shonkhor Zakh to Bayanzurkh Zakh), a

²⁰ Interviews with survey respondents conducted for this report.

²¹ Interviews with survey respondents conducted for this report.

cart carrier (MNT 10,000 per cart, which carries one cattle and six sheep at a time), deboning and cutting (MNT 10,000 to 20,000 per head of livestock), and rent (MNT 400,000 to MNT 500,000 a month).²² As a result, meat prices range from MNT 4,000 to MNT 14,000 per kg of beef and from MNT 4,000 to MNT 10,000 per kg of sheep at the different stages of value chain (figure 16).

4. Governance of the Mongolian meat sector

4.1 Governing bodies

4.1.1 Ministry of Food, Agriculture and Light Industry

The MoFALI is primarily responsible for the creation of agricultural policies. Two laws adopted by the government of Mongolia in 2018 have strengthened the agricultural sector: the Animal Health Law and the Livestock Genetic Resource Law. The Animal Health Law helps improve the governance of veterinary services by creating a vertical chain of command. It also supports traceability and identification of animals, and promotes science-based decision-making in the control of diseases.

Within this framework, the MoFALI created a state administrative agency, the General Authority for Veterinary Services (GAVS), in 2018. The agency is responsible for preventing and combatting animal diseases, and for ensuring the health and safety requirements of animal-derived food and non-food raw materials. Under the national umbrella, operations of the GAVS are carried out at the aimag and soum levels. Each soum has a veterinary department to monitor and assess animal health and to vaccinate, control and eradicate animal diseases. Departments at the soum level report to aimag veterinary departments. Among company representatives interviewed for this report, there was general dissatisfaction regarding the work of veterinary institutions and their collaboration with processing companies, particularly regarding what the companies view as an inadequate system for the control of animal diseases.

To support the country's meat market, the government of Mongolia has also implemented several programs, including "Mongol Meat" in 2010, "Strategic Goal in Agricultural Industry" in three phases (2017–2020, 2020–2025 and 2025–2030) and "Production 21:100." These programs aim to support local meat producers and herders by offering financial aid with low-interest loans. The government has also issued export licenses to local qualifying companies and increased meat export quotas (table 2). Even though these programs have shown promise in increasing meat production and exports, the country still faces export challenges.

According to the MoFALI, the government's decision imposes an export quota was in response to the shortage of meat in the domestic market caused by the loss of

²² Interviews with survey respondents conducted for this report.

animals due to *dzud*. Following the shortage, the domestic market experienced meat price fluctuations. The measure was a direct incentive for local consumers because it allowed ordinary people to purchase meat at a favourable price. On the other hand, due to its improper implementation, the measure had an opposite effect on domestic primary production of meat products. While companies say they agree with the rationale behind the export quota policy, they expressed concerns that a small number of companies were being allocated a large number of quota rights. Many of these companies do not use their export quota, while other processors do not have a sufficient quota to export their meat products and livestock.

In response to the domestic meat price instability, the government of Mongolia designed a meat reserve program to provide a lower-cost option for low-income families in 2005. The program was established as a collaboration between the government, meat-processing companies and supermarkets. Reserve meat is offered during the peak season, usually between March and July of every year. Surveyed companies reported that upon receiving an export permit from the MoFALI, they enter into an agreement with the ministry to supply up to 10 per cent of the quantity specified in the license. The reserve meat is sold at set locations with a pre-determined price on a selling schedule. In 2019, the MoFALI created a task force for the purpose of increasing the meat reserve with an aim of reserving 10 000 tons.

Table 2 Mongolia: Quota on meat exports, by type (tons)

	Type of meat	Quota
1	Beef	8,300.0
2	Horse meat	27,900.0
3	Heat processed sheep meat	6,600.0
4	Heat processed beef	8,000.0
5	Heat processed goat meat	12,000.0

Source: Ministry of Food, Agriculture and Light Industry.

4.1.2 General Agency for Specialized Investigation

Another government agency involved in meat production is the General Agency for Specialized Investigation (GASI). The role of this agency is to monitor compliance with standards set by the government. After the establishment of the GAVS, many meat processors expressed disapproval that companies were required to obtain a hygiene certificate from both the GAVS and GASI. Each of the two organizations takes two to three business days to process the certificate. Another issue raised by the meat processing companies was frequent unannounced on-site inspections from GASI. The inspections are also conducted by the Mongolia Immigration Agency and National Police Agency, causing delays in business operations.

4.1.3 General Authority for Veterinary Services

The GAVS was separated from the MoFALI either to ensure implementation of the Animal Health and Livestock Genetic Resources Laws adopted in 2018, or to establish a vertical system of integrated and operational veterinary management. In separating, the GAVS will focus on veterinary operations and the MoFALI will remain in charge of livestock breeding and the registration of live animals. As mentioned earlier, processors complain about time-consuming and repetitive paperwork required by the GASI and GAVS. The GAVS should provide Animal Health Certificates to the companies, but instead there is an unnecessary step of applying to the GASI as well.

4.1.4 Mongolian General Customs Administration

According to the Customs Law, the Mongolian General Customs Administration (MCGA) is responsible for controlling goods and transport crossing the customs border and verifying related documents. The MCGA provides processors applying for a meat export license with document clearance and a physical examination at the final stages of the process.

4.2 Supporting bodies

4.2.1 Mongolian Meat Association

The role of the Mongolian Meat Association (MMA) is to protect the interests of meat exporters and companies and act as a bridge between exporters, the government, foreign importers, and other non-governmental organizations. More recently, the operational scope of the MMA has been expanded to include support for developing meat processing facilities, increasing meat exports and supplying consumers with safe food. The association frequently reviews the operations of meat processing facilities, collects and analyses statistics, and makes any necessary recommendations. MMA representatives take part in the international commission for certification and accreditation of newly established facilities and in the assessment of compliance with requirements.

4.2.2 State Central Veterinary Laboratory

The State Central Veterinary Laboratory (SCVL) is an affiliate of the GAVS that assists in the implementation of animal health and food safety policies and practices. In the value chain, the SCVL is on both the downstream and upstream sides. In the case of exports, it is responsible for providing primary and formal hygiene standards for export meat. Before passage of the Animal Health and Livestock Genetic Resources Laws, all veterinary clinics were privatized, but now the state has taken back control of every tier of veterinary services.

The SCVL also plays an important role in the three-tier confirmation system of disease outbreaks. The soum veterinaries under the SCVL do check-ups on suspicious cases and take samples. If a disease is diagnosed, the soum veterinary sends samples to the SCVL for additional confirmation. If the result is positive, then the laboratory again sends the sample to the World Organization for Animal Health. After three layers of testing, if the result is confirmed as positive, the country announces an outbreak.

4.2.3 Mongolian National Chamber of Commerce and Industry

The purpose of the Mongolian National Chamber of Commerce and Industry (MNCCI) is to support the economic development of the country, create favourable conditions for doing business, and develop scientific, technical and trade cooperation with foreign and domestic organizations. Accordingly, the MNCCI supports the meat export sector in terms of the process of importing meat and meat products, the introduction of production practices, control and management systems, and the challenges faced with regard to Mongolian legislation. In the documentation of the meat exporting process, the MNCCI provides exporters with a Certificate of Origin that officially confirms that the product is produced in whole or in part in Mongolia.

4.3 Legal Analysis

At present, the government of Mongolia is attempting to ensure clear standards for meat value chain stakeholders (table 3). Agents and players engaged in the meat value chain pay very little attention to the Mongolian quality standards that they are supposed to meet, as long as they obtain an export permit from the importing countries.

In some aspects, the government has overlapping agency jurisdiction. The most-often expressed concern by companies was the identical veterinary certificate issuance from the GASI and GAVS, which results in a time-consuming process to compile documents.

In addition, the lack of clarity in existing government regulations has contributed to making the markets disorderly, and hence it is difficult to attribute accountability to specific entities. If there are epidemics or public health hazards, herders usually take the blame for not producing quality livestock. The survey of herders undertaken for this report shows that the effectiveness of the Animal Health Law is often undercut by the failure of the government to devote sufficient resources to its implementation.

Moreover, when the distribution channel is poorly organized, the players are likely to operate independently and without regard to product quality. In an effort to tackle this problem, the Customs Office started issuing permission to transport meat products in 2019. However, many importing countries still choose to use their own transport companies, as the system does not operate properly.

All these reasons have implications for the motivation of herders to produce quality livestock animals because, in the absence of strict quality monitoring, quality is not assigned a premium in the market price.

Table 3 Main government policies and laws related to the meat value chain in Mongolia

Name	Implementation period	Policies to promote exports
1. Government policies and programs		
Mongolia Sustainable Development Vision 2030	2016–2030	<ul style="list-style-type: none"> • Develop intensive livestock farming based on population concentration and market demand, including increased manufacturing and supply of meat, improved storage and an improved transportation network. • Phase I (2016–2020), Phase II (2021–2025), Phase III (2025–2030).
Action program of the government of Mongolia	2020–2024	<ul style="list-style-type: none"> • Develop the production and sales network of agricultural products, fully meet domestic demand for key food products, and support the production of import-substituting and export-oriented products. • Support and implement the “Mongolian Livestock-II” campaign. • Create a legal environment for pasture use, protection and improvement. • Reduce pastureland degradation and desertification. • Organize the first campaign to support herders, protect livestock from criminal attacks, establish a regional processing plant for agricultural raw materials, produce and export value-added products, and increase the income of herders and citizens. • Improve the reform of the veterinary system, fight infectious and highly contagious diseases, ensure a disease-free zone, and open up opportunities for the export of livestock raw materials and products.

Name	Implementation period	Policies to promote exports
		<ul style="list-style-type: none"> • Increase the productivity of meat, wool, cashmere and the leather processing industry. • Establish an environmentally friendly complex for processing livestock and livestock raw materials to increase exports of agricultural products. • Provide incentives to herders and farmers who increase their agricultural product supply to domestic processors. • Establish a logistics network for agricultural transportation and sales, and establish an optimal system for quality control and certification of agricultural products. • Introduce modern financing tools for small and medium-sized enterprises and implement a policy to expand those enterprises through business incubation services.
Mongolian Export Program	Phase 1: 2018–2020 Phase 2: 2021–2022	<ul style="list-style-type: none"> • Phase 1: Create a favourable environment for the production of export products and for investment in export trade, finance, taxation and legislation, and diversify the export of non-mining products. • Phase 2: Implement measures to support exports of value-added products that meet international standards, expand the export market and increase exports.
Mongolia National Livestock Program	2010–2021	<ul style="list-style-type: none"> • Fully use and increase the capacity of the processing plant in accordance with livestock and raw materials of animal origin, and to support exports. • Improve prevention and control of highly contagious animal diseases prohibited by international trade, and improve the health of livestock

Name	Implementation period	Policies to promote exports
		<p>threatened by zoonotic infectious diseases.</p> <ul style="list-style-type: none"> • Improve the veterinary service system so that it meets economic and social needs and international standards. • Increase the number of fast-growing meat animals, introduce effective methods and technologies for intensive meat fattening in adolescence, and reduce the number of wintering animals. • By 2021, reach a total of 157,000 tons of meat produced by industrial processing. • By 2021, export 50,000 tons of meat
2. Legal acts		
Animal Health Law	8 December 2017	<ul style="list-style-type: none"> • The purpose of this law is to regulate the protection of animal health in Mongolia, ensuring hygiene and sanitation requirements of raw materials and products of animal origin, protection of public health, and promotion of free trade.
Animal Genetic Resources	8 December 2017	<ul style="list-style-type: none"> • The purpose of this law is to regulate the protection of animal health, ensuring hygiene and sanitation requirements of raw materials and products of animal origin, protection of public health, and promotion of free trade.
Mongolian Agricultural Commodity Exchange	2 June 2011	<ul style="list-style-type: none"> • The purpose of this law is to regulate the establishment of the Agricultural Commodity Exchange, its organization, the legal basis for its operation, supply, storage, transportation, and the exchange of agricultural commodities.

Name	Implementation period	Policies to promote exports
Organic Food	7 April 2016	<ul style="list-style-type: none"> The purpose of this law is to regulate all aspects of organic agricultural production, organic food production, feed and fertilizers and their certification, trade, and import, and the use of organic logos and advertisements.
Mongolian Food Safety Law	20 December 2012	<ul style="list-style-type: none"> The purpose of this law is to carry out risk-based inspections of imported and exported food raw materials, products and items used and consumed in the food chain.
Mongolian Food Law	20 December 2012	<ul style="list-style-type: none"> Under this law, a member of the government in charge of food matters determines the types and quantities of strategic food to be exported and imported in a given year based on demand and supply, discussed by the National Food Safety Council specified in Article 18.1 of the law. Under this law, the State Central Administrative Body Responsible for Food Matters issues permits for the export and import of strategic foods in accordance with the procedures approved by the government within the amount specified in Article 6.7 of the law. Under this law, food can only be exported and imported by legal entities registered in Mongolia.
Customs law of Mongolia	20 May 2008	<ul style="list-style-type: none"> The purpose of this law is to regulate customs tariffs, prices, classifications, the origin of goods, and the imposition, collection and payment of customs and other taxes.
Mongolia Value-Added Tax Law	9 July 2015	<ul style="list-style-type: none"> The tax rate on goods and services specified in Article 7.1.3 of this Law is set at zero. All types of goods and services exported from Mongolia are subject to tax under this law.

5. Identified gaps and strategic recommendations

5.1 Identified key gaps

5.1.1 Herder level

- There are significant challenges involved in improving animal health across the board in Mongolia.
- Herders do not pay taxes and do not meet hygiene or other regulations, so informal slaughtering and provision of meat to consumers by herders at a lower price affects the profitability of meat processing companies. This can also negatively affect the safety of meat.
- There are incentives for herders to maximize the number of livestock, which causes excessive pasture carrying capacity and degradation of grazing areas.
- Seasonal variations in livestock prices are significant throughout the year. Reserved meat and export quotas are unlikely to reduce this seasonal volatility of prices, which is due to supply and demand issues.

5.1.2 Middleman level

- Middlemen within the meat value chain are unlicensed and non-taxpaying. Issues similar to those concerning herders apply to the informal slaughtering and sale of meat, reducing the market size of regulated firms and negatively affecting food safety.
- Herders have no intermediaries other than middlemen to deliver their animals to processors. Other delivery systems such as self-delivery or herder cooperatives are structured poorly. This negatively affects the income of herders.

5.1.3 Company level

- Equipment and technologies used in the meat processing process are often out of date.
- Smaller processing plants usually do not have laboratories for operational quality control and product testing.
- There is an insufficient number of skilled workers in the meat processing sector.

- Companies engaged in the production of meat and meat products in the export market do not have adequate marketing and promotional activities for their products.
- There is a low level of mutual cooperation between the processing companies engaged in the same or similar activities.
- The range of meat products is mainly focused on cheaper products without significant innovation in products and without significant manufacturing of products in higher price categories.
- The cash conversion cycle between the purchase of raw material and payment from importing entities is long.
- Hygiene and food safety conditions in large processing facilities are generally good, but smaller facilities do not enforce food safety control.
- Export markets for offal, intestines and other animal parts are not being fully realized.
- Slaughterhouses and meat exporting companies operate well below capacity.
- Certain costs, such as regulatory compliance, may be disproportionately high for smaller plants. Regulations related to meat processing can be complicated to understand, technically difficult to implement, and time-consuming. As each inspector's expectation and communication style is different, regulatory consistency is an ongoing issue. Small processors do not always feel comfortable questioning inspector requirements or decisions.

5.1.4 Supporting institutions level

- There is a high financial burden in the context of obtaining export permits.
- Laws and regulations governing livestock production are inconsistent with export markets.

5.1.5 Framework conditions

Mongolia has the potential to increase meat export volumes if the following problems are solved:

- Animal health: Attain foot-and-mouth-free status from the World Organization for Animal Health and continue to improve the veterinary control system.
- Animal welfare: Eradicate the practice of informal slaughter and improve practices for slaughtering and transporting animals.

- Hygiene in the processing industry: Conditions in larger processing facilities are generally good, but smaller facilities have serious problems. Another problem is meat production outside of the registered location.
- Stakeholders in the meat value chain have little understanding of meat quality standards.

5.2 Strategic recommendations

5.2.1 Short-term actions by the government of Mongolia

In order to strengthen the meat value chain, the government of Mongolia needs to set a series of short-term priorities focusing on enforcing existing laws, rationalizing the quota allocation process and the reserve policy, gaining better access to foreign markets, and supporting productive herder cooperatives, among other measures (table 4).

Table 4 Short-terms actions to support the Mongolian meat value chain

Enforce national programs and new laws	
Action	<p>One of the major programs implemented by the government in the livestock sector is the Mongolia Livestock National Program be implemented within the framework of five priorities over 2010–2021. As of 2019, the implementation of Phase 2 was 61 per cent completed, according to Ministry of Food, Agriculture and Light Industry and the nongovernmental organization Institute of Environment and Agricultural Economics. The program is expected to take the following actions in the time that remains.</p> <ul style="list-style-type: none"> • Monitor the coherence and gaps of the newly adopted Animal Health and Animal Genetic Resources Laws, and of organizational measures to regularly improve both laws. • Ensure implementation of the newly adopted legal documents and the measures to be implemented in the remaining period of the program. • Limit the number of livestock through legal regulation in line with pasture carrying capacity in order to reduce overgrazing. • Improve the legal environment, develop and discuss draft amendments to the Law on Government Special Funds related to the activities of the Livestock Protection Fund, discuss and approve the Law on Pastureland Protection, and introduce the Animal Health Insurance System. • Create economic conditions and introduce a system for monitoring the safety of animal feed. An important part of the Law on Pastureland is the “pasture fee.” Proceeds from the payment will be used to implement local pasture

management, protect pasture ecosystems, and use pastures properly.

- Improve access to health and social services for people working in the livestock sector, and increase insurance coverage.

Rationalize the quota allocation process

Action

- Make the quota allocation process open and clear to the public.
- Organize the quota allocation rationally and on time to avoid causing complications for processors, such as their failing to fulfil contractual obligations with importers or storing their products for a long period that causes changes in quality.
- Restrict the right to re-sell the quota and export another processor's products under the quota owner's name.
- Review and revise the export quota system to allow more productive firms to increase annual quotas based on performance and adherence to international best practices.
- Control the quota allocation process.
- Reform the composition of the working group by including a member of the Export Promotion Council in the group.

Private sector role

There should be no export quota on further sales by the private sector, and the price of the export quota should not be inflated. Processors, industry associations and producer cooperatives should publicly support the government of Mongolia's effort to put in place the most effective reforms.

Renew the implementation of meat reserve policy

Action

- Review and revise meat reserve policy to eliminate price distortions in the domestic market that disincentives exports.
- Ensure systematic meat reserve policy to smooth seasonal variations of local meat prices.

Private sector role

Processors should produce goods that not only provide the required quantity but also meet public demand in order to effectively prevent potential price increases.

Gain market access to new countries

- Action**
- Establish cooperation agreements with new potential importers to create new markets for processors.
 - Intensify and implement cooperation agreements with importers such as the United Arab Emirates and Kuwait.
 - Strengthen cooperation agreements with China and the Russian Federation and improve their trade terms to make them more producer-friendly.
 - Improve health and sanitary conditions of meat processors and slaughterhouses to change the international perception of Mongolian meat to one of high-quality meat.

Private sector role The private sector should also advocate, when and if appropriate, for renewed engagement with importer counterparts, seeking to find common interests and win-win outcomes with the export market private sector.

Establish a program to support productive herder cooperatives

- Action**
- Increase the chances of stabilizing prices not only of meat but also other livestock products by enhancing herder cooperatives and reducing the role of middlemen in the value chain.
 - Strengthen accountability procedures for herder cooperatives and reduce the legal capacity to deceive or exploit herders and processors as a way to re-establish their confidence in cooperatives.
 - Establish a set of criteria to identify eligible herder cooperatives and processors that may be willing to work with herder cooperatives.

Private sector role

- Actively engage in and provide input to the development of the program.
- Establish a commercial agreement between the cooperatives and the buyer in line with the objectives and activities of the business plan.

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- Include the provision of direct support from the buyer to the cooperatives (e.g., animal feed, injections, and other inputs) in the commercial agreement.

Increase channels for herders to sell their livestock

- Action**
- Increase opportunities for herders to sell their livestock not only through middlemen but also directly to producers or through cooperatives as a way to introduce competition with middlemen in the current value chain and create alternative ways of selling animals.

Private sector role Processors should set up factories in livestock-supplying areas, including border soums close to export markets, to reduce transportation costs and create jobs in rural areas.

Implement and communicate disease control strategies

- Action**
- Design and implement an effective communications strategy to convey confidence in the government of Mongolia's ability to effectively monitor and respond to disease outbreaks.
 - Re-establish cooperation with Chinese and Russian authorities (and other interested trade partners) to continue to implement agreed-upon protocols, including joint training and control exercises.
 - Continue staff training on disease control, surveillance and vaccination to bring about long-term benefits from accessing markets other than the Russian Federation and China.

Private sector role The private sector should be accountable for effectively monitoring and controlling animal health, as required by law. The private sector and industry associations should be active partners in the communications strategy.

Update the documentation process

- Action**
- Shorten and expedite the documentation process and reduce the delays associated with it.
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- Classify the roles of the authorities involved in meat export activities and eliminate duplication of documents for the same purpose required by different authorities.

Encourage the development of livestock specialists

Action

- Encourage the training of specialists to work in the livestock sector, veterinary services, and livestock production in order to improve the quality of export products.
- Ensure that industry experts who have worked in the livestock sector are employed in senior decision-making positions in governing bodies and that they can carry out effective and relevant decisions.

Private sector role

The private sector should carry out activities to promote the importance of the meat industry and livestock sector in the economy, and organize training for specialists and personnel who are needed in the industry but are currently in short supply.

Improve the information delivery system

Action

- Introduce domestic and export market requirements and standards on the preparation of meat and meat products to all stakeholders in the value chain, especially stakeholders who are at the beginning of the value chain as herders.
- Develop a system for timely and effective delivery of new laws, standards and regulations issued by the government to herders and other value chain stakeholders.
- Continue to support annual events and public awareness campaigns to increase the knowledge of herders, farmers and associations about how to increase the quality of genetic materials, feed animals in a way that produces higher yield in terms of meat and milk, and implement good farming practices in the production of meat and animal feed.

Private sector role

The efforts undertaken must be designed to be of value to the private sector. The private sector must be actively engaged, including sharing costs where applicable, for this to be effective.

Conduct needs assessments and identify priority border crossings for potential pilot programs

Action	<ul style="list-style-type: none"> • Review the prioritization of road construction, road improvements and airport improvements taking into account those population centers with the highest potential for meat production and the nearest access to export markets. • Conduct a targeted review and needs assessment for equipment and facilities at border posts previously approved by the Chinese for Mongolian meat exports. • Establish human resources management plans for prioritized labs.
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Private sector role	The private sector can advise on which trade pathways have the greatest potential for exports with the relaxation of the Chinese import ban.
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5.2.2 Medium-term priorities for the government of Mongolia

In the medium term, it is recommended that the government of Mongolia continue to improve its disease control strategy and laboratory infrastructure in order to gain better market access conditions and integrate value-chain approaches into horizontal pro-growth strategies (table 5).

Table 5 Medium term priorities to support the Mongolian meat value chain

Implement disease control strategies	
Action	<ul style="list-style-type: none"> • Implement the highest priority provisions of the Animal Health Law. • Establish joint surveillance (with Chinese and Russian counterparts, where appropriate) in targeted production areas. <p>Continue to finance and improve upon early warning system for drought and <i>dzuds</i>.</p>
Private sector role	The private sector should be accountable for effectively monitoring and controlling animal health, as required by law.
Issue	Fulfil obligations as a member of the World Organization for Animal Health
Action	<ul style="list-style-type: none"> • Prevent the international spread of transboundary animal diseases.

	<ul style="list-style-type: none"> • Meet international standards for the quality and control of veterinary medicines and laboratories. • Establish effective public veterinary services at the soum level with a strong chain of command through to central units. • Collaborate with the World Organization for Animal Health to achieve official foot-and-mouth-free-zone status.
Private sector role	The private sector will need to abide by the law and cooperate on issues related to disease control and quarantine.
Issue	Attain preferential market access
Action	<ul style="list-style-type: none"> • Ensure trade negotiators are well-trained, experienced and educated on recent trade developments (e.g., services trade, non-tariff issues, sanitary and phytosanitary issues) by supporting and financing, where necessary, opportunities to increase skills. • Focus attention on negotiating new bilateral free trade agreements (e.g., Generalized System of Preferences) to attain preferential market access for priority export products. • Continue to actively follow and negotiate participation in ongoing regional free trade negotiations (e.g., Asia-Pacific Trade Agreement, Central Asia Regional Economic Cooperation, One Belt One Road) to attain preferential market access on priority export products.
Private sector role	The private sector should be advised of potential trade agreements and have the opportunity to provide input and feedback through a transparent dialogue process.
Issue	Improve laboratory infrastructure and services
Action	<ul style="list-style-type: none"> • Continue to reform national laboratory network responsibilities at all levels to ensure efficient and effective delivery of laboratory services before investments are made in existing or proposed new laboratory facilities, specifically to address existing and/or potential duplication of facilities and services. • Establish a transparent fee system for laboratories for analysis, with the long-term goal of full cost recovery and the maintenance of an adequate supply of reagents and consumables. • Train veterinary staff in rapid and modern testing methods in line with new regulatory requirements and the requirements of exporters. <p>Train specialists in reference laboratories, based on quantifiable demand for specialist services.</p>

Private sector role	<ul style="list-style-type: none">• The appropriate allocation of resources across veterinary facilities and staff should be determined by private sector demand.
Action	<ul style="list-style-type: none">• Integrate the livestock sector strategy within wider investment attraction, export promotion and tourism strategies.• Develop and implement strategies to attract investors willing to contractually support the development of linkages with local suppliers and improve their technology, skills and market intelligence.• Strengthen export promotion synergies with traditional meat products (e.g., jerky).• Continue to pursue mutual recognition agreements, harmonization of standards, and cooperation protocols with potential trade partners.
Private sector role	<ul style="list-style-type: none">• The private sector will need to be aware of such initiatives in order to develop strategies to capitalize on potential opportunities. This can be achieved by increasing the range of products, undertaking significant innovations, and competing in higher price categories. Fully use the offal, intestines and other animal parts and produce export products using them.

6. References

- Bayarbaatar B and Tuvaansuren G (2002). Current climate change impacts on livestock: Potential impacts of climate change and vulnerability and adaptation assessment for grassland ecosystem and livestock sector in Mongolia.
- Ch A (2018). The Veterinary and Breeding Department will be transformed into the General Authority for Veterinary Services. Montsame News Agency. Available at <https://www.montsame.mn/mn/read/90523>
- JICA (2017). Data collection survey for agriculture and livestock sector in Mongolia. Japan International Cooperation Agency. Tokyo.
- Mahul O and Skees J (2006). Piloting index-based livestock insurance in Mongolia. *Access Finance* 10 (March). World Bank. Washington, DC. Available at <https://documents1.worldbank.org/curated/en/645731468773762224/pdf/389560MGOAF101Mahul1article01PUBLIC1.pdf>
- Schild H J (2017). The export corridor - A component of the amended Mongolian AIRS. Standards and Trade Facility. Available at https://www.standardsfacility.org/sites/default/files/STDF_PPG_534_Schild_Mission_Report_Mar17_Final.pdf
- Swiss Agency for Development and Cooperation (2018). Green Gold Animal Health Project: Rangeland health assessment report. SlideShare. Ulaanbaatar. Available at <https://www.slideshare.net/GreengoldMongolia/mongolian-national-rangeland-health-assessment-report-2018-mongol>
- UNIDO (2019). Technology transfer and training to improve meat and leather quality in Mongolia." United Nations Industrial Development Organization. 17 March. Available at <https://www.unido.org/news/technology-transfer-and-training-improve-meat-and-leather-quality-mongolia#:~:text=Tugjjav%20Bayarsaikhan%2C%20executive%20director%20of,is%20slaughtered%20at%20designated%20slaughterhouses>.
- United Nations (2019). Trade and green economy in Mongolia. UN Partnership for Action on Green Economy and the Environment and Trade Hub of UN Environment. March. Available at [https://www.un-page.org/files/public/trade and green economy in mongolia-technical report.pdf](https://www.un-page.org/files/public/trade%20and%20green%20economy%20in%20mongolia-technical%20report.pdf)
- Unurzul M (2019). Mongolia earns MNT400 bln from meat export in 2018. Montsame News Agency. 11 November. Available at <https://montsame.mn/en/read/176931>
- World Bank (2017). Mongolia's red meat value chain: Towards increasing exports to China and other key markets. Unpublished.

