



REVIEW

Trade Barriers and Opportunities for Mongolian Mutton Export

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ABSTRACT

Mongolia has sizable pastures, and Mongolian people have a history and traditional culture of herding. As they have a large population of sheep and goats, therefore, they have substantial potential to become a leading exporter of mutton. In this article, the authors have tried to explore the trade barriers faced by Mongolian mutton exports and the opportunities they can have in the global market. The common challenges faced by Mongolia include high tariffs and import duties, complex trade regulations, insufficient infrastructure, and logistical problems. These obstacles hold back the expansion of Mongolian mutton exports, specifically when in comparison with established competitors like New Zealand and Australia. Despite these hurdles, there are numerous opportunities in global markets, particularly in the Middle East, Southeast Asia, and China. The increasing demand for halal and organic mutton, along with the increasing demand for meat in emerging economies, presents significant opportunities for Mongolia. To take advantage of these opportunities, Mongolia must solve infrastructural and standard requirement challenges, invest in logistics improvements, and place its mutton as a premium product. By taking advantage of its unique pastoral practices, improving certification processes, and adopting strategic trade agreements, Mongolia can improve its share in the international mutton market.

Keywords: Mongolia; Organic Mutton; Exports; Halal Meat; Global Market

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1. Introduction

Mongolia is an East Asian country with sparsely populated, huge grasslands and a nomadic lifestyle. Mongolian people have a long history and strong culture of pastoralism^[1]. With a population of approximately 3.5 million people, the country houses over 60 million livestock, and most of them are sheep and goats. They rank 11th in the world in the number of sheep as well as goats. The livestock sector is a significant contributor towards the national economy, accounting for more than 10% of the total GDP and providing a source of income to almost 30% of the population^[2-4]. Out of the various livestock products, the meat of both sheep and goat, commonly termed as mutton, holds a vital position for both domestic consumers and generating revenue through exporting it. But, regardless of Mongolia's natural advantages, such as free-range grazing, traditional organic production methods, and a reputation for lean and tasty meat, its mutton exports are hindered by several challenges in international markets^[5]. Whilst China is the largest buyer accounting for over 80% of Mongolia's mutton exports. This heavy dependence on a single market leads to vulnerability to trade restrictions and price fluctuations. Furthermore, Mongolian exporters battle with non-tariff barriers, logistical inefficiencies, and stiff competition from well-developed meat-exporting countries like Australia and New Zealand^[6,7].

The mutton industry of Mongolia has many benefits from numerous unique strengths. The livestock here is allowed to graze freely in grasslands, so their meat is organic in nature and much better and different from the meat of factory-farmed sheep and goats in many countries, as Mongolian sheep are pasture-raised without antibiotics or synthetic hormones, which appeals to health-conscious consumers. Being a neighbour to major marketplaces like China, Russia, and Central Asia provides Mongolia a logistical advantage over outlying contenders like Australia and New Zealand. Furthermore, the cultural heritage of herding in the country safeguards and provides deep expertise in livestock handling and management. Although modernization is needed for large-scale export standards, but this naturally sourced mutton is even more in demand. But despite having all these strengths, Mongolia still needs to do a lot in order

to fully take advantage of its capabilities due to structural and trade-related challenges^[8-10].

The Mongolian mutton industry also faces many challenges that limit the capitalization of its full potential to export mutton. These problems can be in the form of import duties and non-tariff conditions employed by importing countries, some domestic challenges such as poor infrastructure, strict quality control standards, and complicated regulations for export. The import duties and quota limits make Mongolian mutton less competitive in international markets as compared to other producers of mutton like New Zealand and Australia. In the meantime, non-tariff barriers, like sanitary and phytosanitary (SPS) regulations, cause further hindrances for Mongolian exporters of mutton who must follow a complex system of international standards and quality criteria to ensure product acceptance in external markets. Furthermore, the issues of domestic infrastructure and lack of sufficient cold storage and transportation provisions reduce the productivity and scalability of the mutton supply chain, eventually leading to a reduction in overall export volumes^[11,12].

This article focuses on the problems and challenges that hinder Mongolia's ability to enhance its mutton exports, and it will also help to identify the areas where improvements are needed to overcome these barriers. Despite having a high population of sheep and goats, Mongolia is not among the top 40 mutton exporters. By looking into the current state of mutton trade and export from Mongolia and current export volumes and revenue, this article will offer significant insights into the key aspects affecting Mongolia's competitive position in the international market.

2. Literature Review: Global Mutton Trade with an Emphasis on Mongolia

The worldwide meat trade plays an important role in the food chain, food security and economic development, with Mutton (including goat's meat) representing a traditionally substantial fragment in many territories. While Australia and New Zealand are the major players in international mutton exports, developing countries

like Mongolia hold unexploited potential because of their extensive, rustic herding systems.

2.1. Global Mutton Trade Patterns

Recent studies have shown that global sheep and goat meat production has increased steadily, reaching 16.1 million metric tons in 2022, with China, Australia, and New Zealand as major producers^[13]. The sector demonstrates distinctive regional specialisation, with Oceania dominating exports while East Asia and the Middle East have a high import demand^[14].

Australia is the world's largest sheep meat exporter, shipping approximately 530,000 tons annually, valued at \$4.2 billion^[15]. This export dominance arises from superior production systems and established trade relationships, specifically with China^[16]. New Zealand comes after Australia, with 400,000 tons of exports, especially in premium chilled mutton products for high-value markets^[17].

2.2. Import Markets for Mutton and Consumption Trends

Research highlights China's rising importance as a mutton buyer, with purchases exceeding 400,000 tons per year^[18] and China mainly imports mutton from Australia and New Zealand. This demand indicates shifts in dietary trends due to urbanisation and income progression^[19]. Middle Eastern countries together import over 300,000 tons per annum, because of their cultural preferences in meat consumption and narrow local production scope^[20]. They source it from Australia, Pakistan, and Africa. The USA imports 110,000 tons of mutton primarily from Oceania.

2.3. Mutton Production System of Mongolia and Its Export Potential

Vast grasslands and a pastoral system in Mongolia lead to housing over 60 million livestock, including 32 million sheep^[21]. Studies highlight the natural sustainability of traditional mobile herding but note its low productivity compared to intensive and advanced farming systems^[22]. Mongolia's annual meat production fluctuates between 600,000-700,000 tons, with mutton

comprising 40-45% of total production^[23].

Despite its large livestock base, Mongolia exports only 30,000 tons of meat annually, primarily to China^[24]. Research identifies multiple constraints:

- Processing infrastructure deficiencies^[25]
- Certification barriers for premium markets^[26]
- High transportation costs^[27]
- Domestic consumption pressures^[28]

Recent studies indicate Mongolia could expand exports to Russia and Middle Eastern markets if it overcomes these problems^[29]. However, climate variability and pasture degradation pose long-term threats to production stability^[30].

The global mutton trade remains concentrated among few exporters serving growing Asian and Middle Eastern markets. Mongolia's extensive production system shows potential but requires modernization to increase export competitiveness. Future research should examine strategies for value chain development and market access improvement in pastoral systems.

3. Current Status of Mutton Exports from Mongolia

The tradition of sheep herding has been deeply rooted in the nomadic culture of Mongolia. Mongolia has a population of over 47 million sheep and goats collectively. Mutton has been a valuable source of food, earnings, and trade for Mongolian herders. Although Mongolia has been involved in the export of mutton for decades. But its position in the global mutton market has not been prominent due to different geopolitical, economic, and infrastructural reasons. Mostly, Mongolia has been exporting to neighbouring countries like China and Russia. However, the volume of exports has not been up to its potential, often constrained by barriers in basic infrastructure, processing capacity, and the lack of official trade deals with larger mutton-importing countries^[2].

3.1. Key Statistics Related to Mutton Exports

According to the data provided by the Mongolian customs department, Mongolia has exported over 26000

tons of mutton worth USD 90 million in the year 2024. In the last 5 years, the volume of mutton exports has increased from 16200 tons in 2020 to a maximum of 28000 tons in 2023^[31,32]. A detail of yearly exports and revenue generation through mutton exports is given in **Table 1**.

Table 1. Quantity of mutton exports from Mongolia in the last 5 years.

S. No.	Year	Volume in Tons	Value (M USD)
1	2020	16200	45
2	2021	21000	60
3	2022	23500	70
4	2023	28000	85
5	2024	26000	90

A general trend shows a continuous growth in exports and revenue generation over the period. Mostly, mutton exports are higher from October to March because herders slaughter more livestock to avoid losses due to harsh weather conditions, commonly termed as “zud” and higher demand in Chinese markets in these months. While exports decrease in summer due to less slaughtering and reduced demand in the Chinese market.

3.2. Main Exporting Countries

Major exporter of Mongolia’s mutton is China, which accounts for over 80% share, along with Russia having almost 10% share and Middle Eastern countries with almost 5% share of mutton exports from Mongolia. China is the largest trade partner of Mongolia, having road connectivity. It has a higher potential for mutton exports but being limited to one or a few markets is a major problem. Russia, being an easy-to-access neighbour, has high potential, but it applies strict veterinary checks. Middle Eastern countries like UAE, Saudi Arabia, and Qatar can also be a lucrative market for organic Mongolian mutton with a Halal certification. Exports to other neighbouring countries like South Korea, Japan, Central Asian and European countries have been negligible due to high standards requirements and longer routes^[6,7].

3.3. Advantages of Mongolian Mutton

Mongolia possesses distinctive advantages over its competitors in global markets as sheep and goats are

raised in natural grasslands and pastures, resulting in better and healthier meat, while in other countries, livestock is factory farmed and fed with grain. That’s why, Mongolian meat has a distinct flavour profile preferred in certain markets. Moreover, minimal use of antibiotics, hormones, or synthetic feed makes it appealing to health-conscious consumers. As the livestock is fed on natural resources, it has a much lower production cost as compared to other exporters like Australia and New Zealand. However, logistics and cold chain incompetence counterbalance some cost advantages^[8-10].

Furthermore, Nomadic herding traditions ensure expertise in livestock management. Additionally, a closer vicinity to major buyers reduces shipping costs compared to Oceania-based competitors. Mongolia’s mutton export market has strong fundamentals but remains underexploited due to trade barriers and market concentration. Expanding into Halal markets, processed meat exports, and organic certification could unlock higher-value opportunities.

4. Methods

This research article has explored secondary data, which includes information obtained from existing reports, publications, trade statistics, and other sources of secondary data. These secondary data sources are important for a deeper understanding of the global mutton trade and Mongolia’s position in it, and for finding existing trade hurdles and opportunities. The main sources of secondary data used in this study include data taken from government agencies like Mongolia’s Ministry of Food, Agriculture, and Light Industry, and Customs authorities. This data provides key trade data, including export amounts, revenue, and trading countries. Some data is also taken from international trade bodies such as the World Trade Organization (WTO), the Food and Agriculture Organization (FAO), and the International Trade Centre (ITC). These sources provide detailed reports on international import and export trends, tariff details, and regulations. Using these secondary data sources ensures a comprehensive and reliable data set for analysis, enabling the study to examine the global mutton trade and Mongolia’s position within it.

The analysis framework unites both quantitative and qualitative approaches to evaluate Mongolia's mutton trade operation and spot strategies for overcoming export barriers. The framework will involve comparative analysis and a SWOT (strengths, weaknesses, opportunities, and threats) analysis. The comparative analysis will focus on highlighting Mongolia's mutton trade performance against other major exporters like New Zealand and Australia.

5. Trade Barriers in Mongolian Mutton Exports

Mutton exports from Mongolia face several challenges and barriers that don't allow for expanding this trade opportunity on a full scale. These problems include tariff policies, issues related to certifications, safety standards, inadequate infrastructure, poor logistical support, limited access to potential markets, strong competition, and lack of supportive policies. Each of these presents unique challenges that require targeted solutions to unlock Mongolia's export potential. Each of these barriers gives rise to different and significant hitches to Mongolian mutton export. Adequate and right policies and support from different institutes can help to address these issues and assist in improving the industry's competitiveness in the worldwide market.

5.1. Tariff Policies

Tariff policies of major importing countries are causing a hindrance in enhancing mutton exports from Mongolia. The most urgent problem arises due to high import duties imposed by key markets. For example, China imposes a 12–15% import duty on frozen mutton (WTO, 2023), which significantly elevates the final price of Mongolian mutton and other products. Although Mongolia benefits from some favoured tariffs under regional trade agreements, yet it has to face restrictive quotas that limit export quantities. For example, the China-Mongolia Free Trade Agreement provides tariff-free access for only 10,000 tons of mutton annually (MOFCOM, 2022), which is less than half of Mongolia's total exports to China^[33]. The second major importer, Russia, within the Eurasian Economic Union (EAEU), imposes a 10%

import duty on Mongolian products, while domestic Russian producers receive subsidies^[34]. Similarly, Tariffs in the Middle East and the European Union (EU) range from 5–20%, making Mongolian mutton less competitive^[35,36]. Comparatively, there is no import duty on mutton imports from New Zealand and Australia in Gulf Cooperation Council (GCC) markets^[35–39].

The duties and tariffs imposed by these importing countries have a direct effect on Mongolia's mutton export quantities and revenue. Higher import duties make Mongolian mutton more expensive in foreign markets, which leads to a reduction in demand. Therefore, consumers in these countries prefer cheaper alternatives from countries with lower or no tariffs. These high tariffs limit Mongolia's ability to expand its exports and decrease its market share in key regions. The higher costs also lower profitability for exporters, as they must bear some of the tariff burden or pass it on to consumers, which could further decline demand.

5.2. Certification and Safety Regulations

Mongolian mutton exports face substantial issues with standard certification and safety regulations. For example, sanitary and phytosanitary (SPS) regulations are another important non-tariff obstacle for Mongolian mutton exporters. SPS regulations are required for the protection from health risks associated with the importation of live animals and animal products. Many countries, particularly in the EU and North America, and Japan, have strict SPS standards for food safety, including requirements for animal health certification, disease-free status, and veterinary checks. Mongolia, with its limited infrastructure in terms of veterinary services and disease management, often struggles to meet these high standards, limiting its access to these markets. Traditionally, Mongolia has encountered problems related to foot and mouth disease and other livestock diseases that can hamper mutton exports to many countries. Without the mandatory disease-free certifications, Mongolian mutton cannot be allowed to enter into several markets, especially in regions like the EU and North America, where food safety standards are rigorously enforced^[40,41].

Moreover, certification by internationally recog-

nised bodies is often required to prove that mutton and its products meet quality and safety standards. This includes certificates such as Hazard Analysis and Critical Control Points (HACCP), which ensure safe meat processing practices. Mongolia's exporters may face hurdles in providing such certifications, specifically if processing plants don't have the necessary facilities or trained staff^[11].

All Muslim countries, including Middle Eastern and South East Asian countries, require halal certification. Although Mongolian mutton is often halal, many Muslim countries demand strict proof of halal compliance at every stage of production, from slaughter to processing^[42]. If Mongolia's slaughterhouses do not have internationally recognised halal certifications, its mutton may be excluded from these markets.

5.3. Logistics and Infrastructure Issues

Logistics plays a crucial role in the accomplishment of any export industry, especially in the meat sector, where product quality must be assured throughout the supply chain. Mongolia is a landlocked country with an underdeveloped infrastructure that creates severe logistical barriers for mutton exports. Transportation inadequacies are mainly acute, which requires an average shipment to reach China in 3–5 days by trucking through challenging terrain^[26]. The absence of direct rail connections to major ports further makes it difficult to reach out to distant markets like the Middle East, forcing reliance on expensive transport solutions.

The lack of proper cold chain infrastructure presents another critical choke point. While Australia and New Zealand have temperature-controlled supply chains capable of maintaining meat at -18°C throughout the logistics process, Mongolian cold storage facilities often suffer from power outages and equipment limitations. A UNDP assessment (2022) found that only 35% of Mongolian meat processing units have dependable cold storage. This lack of proper infrastructure is compounded by limited processing capabilities. Most of the facilities can only produce basic frozen carcasses rather than the value-added cuts preferred by high-end markets.

Proper packaging and labelling are also essential in

ensuring that mutton products are accepted in international markets. Different countries have strict labelling conditions that present important information to consumers about the origin, quality, and safety of the product. Mongolian mutton exporters often face problems in meeting international packaging and labelling standards, which may include requirements for specific labelling languages, nutritional information, and expiry dates^[43].

5.4. Market Access Barriers and Competition

One of the major limitations for Mongolian mutton exporters is the absence of direct access to high-demand markets, for instance, Europe and North America. Mongolian mutton exporters are geographically very far from key customer markets in Europe and North America. The high cost of long-distance carriage and the deficiency of direct shipping routes make it expensive and ineffective for Mongolian producers to enter these markets. Both Europe and North America have rigorous trade laws and protocols for meat products, including strict health and safety standards. Without a direct agreement or trade route, Mongolian mutton faces significant barriers to entering these markets, mainly compared to exporters who are geographically closer or already have established trading relationships with these countries^[44].

Mongolian exporters face intense competition from established mutton-producing nations with more sophisticated agricultural systems. Australia and New Zealand dominate premium markets through brand recognition. Their "clean, green" image commands 20–30% price premiums^[45]. They provide a year-round supply and ensure consistent availability. The competitive disadvantage is worsened by Mongolia's lack of branding and marketing efforts. Although Mongolian mutton possesses superior quality traits such as organic, free-range, heritage breeds, these merits remain largely unnoticed to international consumers. A market survey by the Mongolian Meat Association discovered that 68% of Chinese traders were unaware of Mongolian mutton's organic production methods. This gap of branding and publicity prevents Mongolian exporters from escaping

the commodity trap and accessing higher-margin market segments^[46].

Additionally, the export sector endures fragmentation, with several small-scale operators competing on price instead of working together to build market presence. This conflicts with Australia's coordinated marketing through "Meat & Livestock Australia", which pays over \$50 million annually on global marketing. The lack of industry-wide quality standards and grading systems further damages Mongolia's ability to rank its mutton as a premium product^[12].

5.5. Lack of Supportive Policies

A major problem encountered by Mongolian exporters is a lack of a comprehensive and supportive policy for mutton exports, which holds back the growth of its mutton exports. The country also lacks comprehensive quality control mechanisms in mutton production. As stated before, mutton processing facilities are mostly not up to international standards, and this is intensified by inadequate quality control systems at the domestic level. Without applicable systems to supervise and maintain high standards, Mongolia's ability to supply and export mutton that meets the standards of global markets is severely restricted. There is also a lack of transparent, competent export mechanisms and regulations that offer guidance and support for mutton exporters. The absence of a consistent and clear policy framework makes it challenging for companies to understand and navigate the regulatory requirements, which can further delay export processes and cause difficulties in fulfilling international standards^[43].

Mongolia's political relations with major importing partners substantially affect the situations under which mutton is exported. The lack of bilateral or multilateral trade agreements between Mongolia and major mutton-importing countries also poses a challenge. Countries with favourable trade agreements, such as New Zealand or Australia enjoy reduced tariffs and smoother trade processes, while Mongolia may face higher barriers to entry in EU and North American markets^[36].

Domestic policies of Mongolia also play a major role in shaping its mutton exports. Government support for infrastructure improvement, export subsidies,

and regulatory modifications can help ease trade barriers. A lack of government policies and plans to advance trade facilitation, improve processing standards, and establish export-friendly policies can hamper the growth of mutton exports. On the other hand, government attempts to foster agricultural exports, secure better trade agreements, and invest in infrastructure could notably increase the country's export projections. Besides, Mongolia has not invested enough in advertising and marketing its mutton in global markets. The lack of a strong promoting strategy means that Mongolian mutton is often less well-known compared to its competitors. Mongolia still needs to formulate a meaningful brand presence in key export markets, which decreases its visibility and demand^[43].

6. Opportunities for Mongolian Mutton Exports

Despite all these challenges and barriers, Mongolia's mutton exports have the potential to undergo considerable expansion through strategic efforts to enter the top 10 mutton exporters, improving export readiness, and reforming related policies. Benefiting from its natural resources, vast grasslands, organic production methods, and traditional herding culture, Mongolia can carve out a unique position in the international market.

6.1. Finding Potential Markets

Mutton exports from Mongolia have historically been single-handedly concentrated in China and, to a lesser extent, Russia. Yet, expansion is necessary for decreasing market dependency and improving economic flexibility. There are several markets where Mongolian exporters can focus to find buyers. Southeast Asian countries like Vietnam, Malaysia, and Indonesia have expanding middle classes, increasing demand for mutton, and a cultural acceptance of meat products, especially halal-certified products. Similarly, Central Asian and Eastern European countries like Kazakhstan, Uzbekistan, Ukraine, and the Balkan states offer geographical proximity and growing demand for mutton and its products. Furthermore, the United States and Canada have growing ethnic populations from Middle Eastern,

South/Central Asians, and Africans that have a strong demand for mutton. Organic and healthy meat also appeals to health-conscious consumers in these regions^[47].

To flourish in these markets, Mongolia must carry out comprehensive market research to identify consumption habits, pricing potential, and preferred products, for example, fresh vs. frozen, bone in vs. boneless. As well as Mongolian exporters should try to understand cultural or religious requirements, such as halal certification, SPS or HACCP standard requirements. Exporters should also analyse the economic underlying forces, including major suppliers, price range and probable gaps that Mongolia can take over. Tailoring exports to the requirements of each market enhances the chances of approval and long-term customer reliability^[7,8].

As consumer recognition of health and environmental sustainability is increasing, there is a rising demand for organic meat products. Mongolian mutton, which is often free from chemicals and different hormones due to its grass feeding, fits well into this market segment.

The increasing demand for grass-fed meat in markets such as Canada, the United States and, the European Union bids another opening for Mongolian exporters. Mongolian exporters can weight on their natural advantages in mutton production to take their share in these premium markets, which are ready to pay better prices for organic, grass-fed mutton and mutton products.

Instead of concentrating exclusively on raw meat, Mongolia should expand export revenue by making value-added mutton products like sausages, patties, and meatballs. Providing convenient and shelf-stable products for export to remote or lower-infrastructure markets is also a need of the time. Portioned and packaged frozen cut products tailored for modern retail and food-service industries are also important. These goods not only bring higher prices but also open doors to markets that demand convenience, uniform quality, and food safety.

6.2. Improvements in Infrastructure

An important factor in export success is a reliable infrastructure that can assure an efficient supply chain, specifically in the meat sector, where preserving qual-

ity and reducing costs are vital for the exporters. The mutton export sector of Mongolia can attain extensive growth by increasing spending in infrastructure and improving basic components of the supply chain.

As the meat is a highly delicate product, the need for dependable cold storage and shipping is crucial to guaranteeing its quality during export. Mongolia's present cold storage infrastructure is insufficient to handle large quantities of mutton exports, which restricts the country's potential to meet international buyer's requirements^[4,43].

Capitalising in cold storage facilities at key export places such as near the border with China or Russia and enhancing temperature-controlled transportation would substantially decrease spoilage of meat, improve its quality and make it more competitive in global markets.

Updating meat processing factories to meet international standards for hygiene, quality control, and certification is fundamental for increasing mutton exports. These developments would permit Mongolia to process larger quantities of mutton professionally while meeting the obligations of key import markets, including those with strict food safety standards.

Developing trade facilities, such as dry ports, railways, and road networks, is also important for cutting transportation costs and ensuring the timely delivery of high-quality products to customers in global markets. Cooperating with global shipping groups that specialize in meat exports can help Mongolia raise its logistics and supply chain networks. By working with established companies in the international distribution and delivery sector, Mongolia can develop the efficiency of its mutton exports, decrease costs, and guarantee that products are supplied on time and in optimum condition.

6.3. Policies and Trade Agreements

Effective government policies and trade agreements are critical to increasing Mongolia's access to global markets. Mutual trade agreements and effective participation in regional trade collaborations can help overcome many barriers in market access that presently reduce Mongolia's export potential. Trade agreements between Mongolia and neighbouring coun-

tries like China and Russia could open privileged access to these worthy markets. By settling promising provisions for mutton exports, Mongolia can ensure comfortable market access, lower export tariffs and duties, along with better trade conditions. Mongolia's membership in regional economic organizations like APEC can facilitate better commerce relationships with other member states, particularly in the Asia-Pacific region, where demand for mutton is increasing. Improving trade agreements with APEC members can help expand market access for Mongolian mutton^[34].

Mongolia's membership in the World Trade Organization (WTO) grants the country with access to a global framework for trade challenges and cooperation. WTO membership can help Mongolia associate its agricultural policies with global standards, which is fundamental for strengthening market access. Additionally, as a WTO member, Mongolia can benefit from dispute settlement mechanisms and the reduction of trade barriers through multilateral agreements^[6].

Mongolia can improve its sanitary and phytosanitary standards by spending on veterinary services, disease control and the required important certification systems. This would make it easier for Mongolian mutton to comply with strict health regulations in important global export markets. Streamlining customs processes and enhancing the efficiency of international trade can help modernise the export process. Mongolia could provide digital trade platforms and automated customs systems to decrease delays and paperwork at borders.

The government can give subsidies to mutton producers and exporters to help them contend in interna-

tional markets. This might include financial support for infrastructure development, market research, and trade missions. Providing export credits or tax incentives for exporters can also help make Mongolian mutton more competitive on price. The government should focus on marketing and branding Mongolian mutton internationally. Creating a strong national brand, such as "Mongolian Organic Mutton," can help differentiate the product in global markets. Organizing trade fairs, food expos, and marketing campaigns targeted at key markets (like the Middle East and Southeast Asia) can raise awareness of the product's quality and uniqueness. Providing export training programs for mutton exporters and facilitating access to trade information can help build the export readiness of the private sector. This may include guidance on how to navigate regulatory environments, achieve certifications, and understand international consumer preferences.

7. A Comparison of Mutton Production and Exports (Mongolia vs. Australia vs. New Zealand)

Mongolia, Australia and New Zealand possess amazingly different positions in the global mutton exports and production. Each country's story explains its unique natural features, agricultural practices, and economic primacies, establishing an interesting contrast in how they produce and export this prized product. A detailed comparison of their production and exports is given in **Table 2**.

Table 2. A comparison of Mutton Production and Exports by Mongolia, Australia and New Zealand

Category	Mongolia	Australia	New Zealand
Sheep Population (million)	32	72	26
Mutton Production (Tons)	300,000	660,000	520,000
Total Exports (Tons)	30,000	530,000	400,000
Export/Production %	10%	80%	77%
Top Export Market	China (90%)	China (50%)	China (40%)
Export Value (USD)	\$150M	\$4.2B	\$3.6B

Australia produces 660,000 tons of mutton from 72 million sheep utilising advanced breeding and vertically integrated processing, and New Zealand produces 520,000 tons from 26 million sheep, specialising in pre-

mium grass-fed lamb through efficient pasture management. Whereas Mongolia yields 300,000 tons from 32 million free-range sheep, maintaining traditional nomadic herding practices unchanged for centuries^[13-17].

Australia exports 530,000 tons (80% of production) worth \$4.2 billion, with diversified markets including China (50%), Middle East (30%) and USA (15%). On the other hand, New Zealand ships 400,000 MT (77%) of high-value chilled cuts to China (40%), EU (30%) and UK (20%) Comparatively Mongolia exports just 30,000 MT (10%), primarily to China (90% as frozen meat) and a small amount to Russia (5%) Middle East (5%)^[16–22]. (Detailed data is given in **Table 3**).

Table 3. A breakdown of the mutton export market.

Export Destination	Mongolia (Tons)	Australia (Tons)	New Zealand (Tons)
China	27,000	265,000	160,000
Middle East	1,500	159,000	40,000
USA	-	79,500	20,000
EU	-	-	120,000
Russia	1,500	-	-

Australia and New Zealand benefit from industrial-scale production with consistent quality and global distribution, and their high-value branding. On the other hand, Mongolia fails to get the advantage of its organic, free-range product with a unique flavour profile but limited market access due to an underdeveloped processing infrastructure, transport costs, and certification barriers.

8. SWOT Analysis of Mongolian Mutton Exports

SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis helps to assess the potential benefits and challenges of a particular study, and we thoroughly discuss internal and external important factors. Mongolia has a significant potential to become a one of the top exporter of mutton in the global market because of its extensive livestock resources and strong history and culture of pastoral practices. Regardless of these advantages, several internal and external aspects restrict Mongolia's ability to fully capitalize on these strengths. In this section we present a SWOT analysis of the Mongolian mutton exports and provide a comprehensive understanding of the factors that influence its competitiveness and growth in global markets.

Strengths

1. Vast Livestock Resources

Mongolia has livestock population over 60 million with a substantial fraction being sheep and goats. The country ranks among the top 15 worldwide in terms of sheep and goat populations, and can provide an extensive supply of mutton.

2. Organic Meat

The natural grasslands and traditional herding practices help to get high quality organic mutton. Mongolian sheep are raised in natural environment, free from antibiotics and synthetic hormones, which increases the demand of the meat to health-perceptive buyers, especially in the organic product markets.

3. Low Cost of Production

The natural style of herding in free-range grazing in grasslands allows for lower production costs compared to livestock farming methods. This makes Mongolian mutton cheaper than its competitors and provides an advantage.

4. Geographical Closeness to Main Markets

Mongolia's share border with main mutton importing markets such as China, Central Asia, and Russia and this provides a logistical upper hand in terms of lesser shipping costs and shorter delivery times equated to more distant competitors like Australia and New Zealand.

5. Expertise in Livestock Management

Mongolia's nomadic culture and tradition of herding provide a deep knowledge and expertise in livestock handling and management, which enables them to produce high quality, organic and cost-effective mutton and mutton products.

Weaknesses

1. Poor Infrastructure

The inadequate infrastructure, especially insufficient cold storage, underdeveloped transportation, and processing facilities, limits the scalability and growth of mutton exports. Insufficient cold storage capacities lead to wastage of the meat and also affect the quality of the product upon reaching global markets.

2. Certification Issues

International certification standards like sanitary and phytosanitary (SPS) regulations, HACCP (Hazard Analysis and Critical Control Points), and Halal

certification which are required by almost all export markets are a big challenge faced by Mongolian mutton exports. The absence of these certifications restricts export of Mongolian mutton to high-value markets, mostly in Europe, North America, and Muslim-majority countries.

3. **Over-Dependence on Chinese Market**

A major proportion (over 80%) of Mongolia's mutton exports are sent to China. This heavy dependence on a single market causes the vulnerability of this sector and leads to fluctuations in demand. Moreover, tariff and trade restrictions along with geopolitical tensions between Mongolia and its largest trading partner China may also affect this trade significantly.

4. **Limited value addition and Market Approach**

Internationally, Mongolian is not well-known for its mutton production and exports. Although it offers better quality because of its organic and natural production methods, yet, the lack of a good branding and proper marketing efforts means that it often remains unnoticed in international markets, mainly in comparison with established exporters like New Zealand and Australia.

5. **Scattered Industry**

The Mongolian mutton export industry is fragmented and scattered having many small-scale exporters working without any coordination. This deficiency of coordination and organisation limits the efficacy of marketing and branding attempts and inhibits the industry from building a combined existence in global markets.

Opportunities

1. **High Demand for Organic and Halal Products**

There is a growing global demand for Halal-certified and organic raw mutton and mutton products mainly in the Middle East, North America, Southeast Asia, and EU. Mongolian mutton, being organic nature due to its natural feeding, is well-placed to benefit from this demand. The rising awareness of sustainability and the health benefits of organic grass-fed meat launches opportunities for Mongolian mutton to enter premium markets particularly in Middle East, North America and EU where consumers are willing to pay a premium for organic, grass-fed meat.

2. **Value-Added Products**

The potential to expand raw meat into value-added meat products such as patties, sausages, and frozen cuts presents higher spaces and broader market demand. These products can also meet the growing demand for ready-to-eat foods in retail and foodservice industries, augmenting export revenue.

3. **Finding New Markets**

Growing markets in Central Asia, Southeast Asia, and Eastern Europe offer new opportunities for exporting Mongolian mutton. Especially in countries like Vietnam, Malaysia, and Indonesia are experiencing high demand for meat, including mutton, pushed by growing middle-class populations.

4. **Better Trade Agreements**

Intensifying and refining trade agreements with neighbouring countries, predominantly China and Russia, and engaging in bilateral or multilateral agreements under frameworks such as the World Trade Organization (WTO) or APEC can help to get better market access, reduced tariffs, and facilitations in trading conditions.

Threats

1. **High Import Duties and Tariffs**

Mongolian mutton faces significantly high import duties imposed by key markets such as China and Russia. These tariffs enhance the price of Mongolian exports including mutton and make it less competitive when compared to other exporting countries like New Zealand and Australia, who advantage from lower tariffs in these markets.

2. **Strong Global Competition**

Established exporters, specifically New Zealand and Australia, control the premium mutton market. Their image of being "clean and green", stronger branding, and year-round supply chains found strong competition for Mongolian mutton exports, which battles with brand recognition and consistent supply chain issues.

3. **Logistical Challenges**

Due to Mongolia's landlocked geography and insufficient infrastructure several create logistical barriers threaten Mongolian Mutton exports. The lack of dependable cold chain storage and the lack of direct

shipping routes to Europe and North America raise transportation costs and lower the competitiveness of Mongolian mutton in these markets.

4. **Regulatory and Quota Issues:** Many international markets, particularly in Europe and North America, have strict regulations for meat imports. These include sanitary standards, food safety certifications, and the requirement for disease-free certifications, all of which Mongolia struggles to have due to its inadequate veterinary infrastructure and disease management systems.
5. **Climatic and Health Issues:** The severe winter and harsh weather conditions, known as “zud,” can lead to substantial livestock fatalities in Mongolia, which can outcome in volatile supply and decrease the quantity of mutton available for export in certain years.

Mongolia’s mutton export sector holds substantial potential due to its vast livestock resources, organic meat production methods, and proximity to major markets. However, significant barriers such as high tariffs, non-tariff barriers, limited infrastructure, and a lack of certification standards hinder the country’s ability to fully capitalize on this potential. By addressing these weaknesses through strategic investments in infrastructure, certification processes, and market diversification, Mongolia can improve its competitiveness in the global mutton market and establish itself as a leading exporter of organic, grass-fed mutton.

Expanding into emerging markets, developing value-added products, and engaging in strategic trade agreements will be key to unlocking the full potential of Mongolia’s mutton exports and positioning the country for long-term success in the international market.

9. Conclusions

Mongolia has a high potential for mutton exports because of due to its high livestock supplies, conventional cultural practices of herding, and the growing demand for organic mutton in the global market. However, regardless of having so many advantages, the mutton exports have to face a range of trade barriers and logistical issues that hamper their capacity to fully exploit the

global markets. Focusing on these issues will be central to unlocking the full potential of Mongolia’s mutton exports and positioning the country as a major supplier of meat and mutton products in the international trade and business.

Main hurdles faced by Mongolian mutton exports comprise duties, tariffs and non-tariff restrictions, logistical inadequacies, flawed policies and trade agreements. High import duties in key markets like China, along with rigorous sanitary and phytosanitary (SPS) standards, reduce Mongolia’s export volumes. Non-tariff barriers, for example certification requirements and export quotas, further make market access difficult. Insufficient cold storage and poor transportation infrastructures dent product quality and shelf life, while poor packaging and labelling practices hinder compliance with international standards. Relying heavily on China subjects Mongolia to geopolitical and economic weaknesses, needing diversification into rising markets like North America, the EU, the Middle East and Southeast Asia.

Increasing demand for halal and organic mutton in global market, and capability of Mongolia to produce premium grass-fed meat, offers immense advantage. Value-added products (e.g., processed mutton) and formation of Mongolia’s brand could further boost productivity and profits. Focusing on dependable cold chain establishment, modernising slaughterhouses, and upgrading transport logistics to meet global standards and enhanced public-private partnerships could fast-track these efforts. Negotiation on favourable bilateral agreements (e.g., with GCC countries) to cut duties and tariffs along with streamlining customs procedures and aligning with international certifications (HACCP, halal) will also improve market access.

Moreover, targeting new markets with rising demand, such as Vietnam and the UAE, through designed marketing campaigns and participation in international trade fairs can also help to boost exports. Besides, providing subsidies to exporters, and funding research and development will help to generate more valuable revenue through mutton exports.

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The authors declare no conflict of interest.

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