

Title	One step forward, two step (pe)s back : opportunities and challenges for the Mongolian livestock production
Sub Title	
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Publisher	慶應義塾大学大学院経営管理研究科
Publication year	2015
Jtitle	
JaLC DOI	
Abstract	
Notes	修士学位論文. 2015年度経営学 第3058号
Genre	Thesis or Dissertation
URL	https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=KO40003001-00002015-3058

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慶應義塾大学大学院経営管理研究科修士課程

学位論文（ 2015 年度）

論文題名

One Step Forward, Two Step(pe)s Back: Opportunities and Challenges for the Mongolian Livestock Production

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論文要旨

所属ゼミ	岡田正大研究会	学籍番号	81430607	氏名	Alessandro Scalisi
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One Step Forward, Two Step(pe)s Back: Opportunities and Challenges for the Mongolian Livestock Production					
(内容の要旨)					
<p>This thesis is a study about Mongolia's potential as a livestock product exporter. Mongolia's economy is heavily dependent on mineral exports, making the country vulnerable to commodity prices volatility. At the same time, its national herd (livestock number) is over 40,000,000, while the human population of the country is only 3,000,000. China, which shares its longest border with Mongolia, is a net importer of beef and lamb, and the same can be said about other East Asian countries, such as South Korea and Japan. The livestock sector has been linked to the traditional lifestyle of Mongolians for thousands of years and is the base of Mongolia's identity. However, Mongolia's meat exports are minimal and the livestock and meat processing sectors are facing huge challenges. Is it possible to help Mongolia's livestock production to achieve international standards and turn this country into an exporter? What are the necessary steps to reach this objective in a way that is consistent with the country's herding tradition?</p>					

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1. Introduction

This research is a feasibility study about the possibility of turning the Mongolian livestock sector into an important source of export. The economy of Mongolia is heavily reliant on natural resources, especially mining, which accounts for around 90% of exports. Fluctuations in the price of commodities have an enormous impact on the economy of this country. For this reason, Mongolia passed from being one of the fastest growing economies in the world to being labeled as the country not to invest in. An equally important problem is inclusiveness. Mining does not contribute directly to the livelihood of most Mongolians. Its scope is geographically limited and its contribution as a source of employment is negligible.

Mongolia has a population of less than 3,000,000 people, but has a national herd of 40,000,000 heads, divided between sheep, cows, goats, horses and camels. About 20% of Mongolians are nomadic herders, which equals to almost half of the people living outside of Ulaanbaatar. Mongolia's national herd is an immense resource, whose potential is not being exploited because of the lack of infrastructures.

I would like to suggest a hybrid system of extensive and intensive farming with collaboration between local herders organized in cooperatives and Japanese trading company Kanematsu.

2. Background

2.1 History

Mongolia is famous as the homeland of Chinggis Khan, who, in the 13th century, established an empire going from Korea to Eastern Europe. Chinggis Khan created trade networks and a rule of law that gave a sense of unity in previously autonomous areas. After his death, the empire was divided between his sons, one part founding the Yuan dynasty of China. By the 14th century, the Yuan dynasty was expelled by the Ming, with the Northern Yuan dynasty surviving only in the areas inhabited by Mongolian tribes. In the 17th century, the Manchu Qing dynasty conquered Mongolia, which became a feudal state of China until 1911. In that year, the Qing dynasty fell and Outer Mongolia (corresponding to the current Mongolia) declared its independence. The Republic of China tried to conquer Urgaa (the former name of Ulaanbaatar), but was defeated by Bolshevik troops (Smith, 2007). From 1911 to 1921, Mongolia was governed in a way which is similar to Tibet, led by Bogd Khan, the highest Buddhist authority in Mongolia. In 1921 he was overthrown by the Mongolian People's Party, a communist movement supported by the Soviets. Only in 1990, Mongolia held its first democratic elections. In 1991, foreign investments from capitalist countries started flowing in, with the American company Amicale establishing a joint venture, followed by Korean and Japanese companies (Simpson, 1999). In 700 years, Mongolia experienced enormous changes: most important empire in the world, ruler of China, vassal state of China, religious autocracy, socialist republic, democracy... However, there was one constant. The lifestyle of the Mongolian people remained unchanged until late 20th century. Mongolia is traditionally a nomadic pastoral society. Ownership can be distinguished between private and public (owned by the royal court, government or religious authorities). Public ownership became more and more common from the 13th century, especially during the Qing dynasty. During the Soviet period, livestock collectivization was attempted in the 1930s, through the creation of voluntary

cooperatives called *arad*, but it was accomplished only in 1959 with the replacement of *arad* by *negdel*. Nevertheless, individual ownership of an a limited number of heads was still allowed. In 1990, livestock privatization was commenced and, by year 2000, privately owned livestock reached 96.7% (Shagdar, 2014). In 2011, out of a total of 713,800 households living in Mongolia, 154,900 are herders households (i.e. 21.3%) (FAO, 2012).

2.2 Transition to Capitalism

In 1986, Mongolia launched a program of political reforms similar to *glasnost*. From 1990, large scale liberalizations and privatizations took place. The termination of financial cessation from the former Soviet Union, collapse of traditional export markets and a fall in the price of copper caused an economic crises that lasted until 1994. These shocks caused a decline in a 62% decline in domestic absorption (domestically-produced goods consumed locally plus imports), which, according to Nixon and Walters, is an unprecedented fall for a country in peacetime in the 20th century and can only be compared with post-war Japan and Germany. It is important to notice that, according to the Asia Foundation, until 1990, 90% of Mongolia's trade was done with the Soviet Union and that 25% of its gross national product was directly attributable to Soviet aid. In the first months of 1990, trade with the Soviet Union abruptly decreased by 73%. The Soviet Union being the source of all goods that were not domestically produced, a large number of products necessary to sustain modern life became unavailable (The Asia Foundation, 2000). Economic growth started again in 1994, but Mongolia had to wait until 1998 for GDP to reach pre-1990 levels. Since the 1980s, the Mongolian government had given a high priority in the development of the mining sector, somehow neglecting the agricultural sector (Nixson and Walters, 2000). From the mid-1990s, the rising price of copper and development of gold mines have been the main economic drivers. In 2013, non-mining exports accounted for only 10.9% of total exports, with animal products making up only 1.4% of total exports. In 2006, non-

mining exports accounted for 23.6% of total exports and, in 2007, animal products made up 3.5% of total exports. Not only the ratio, but the nominal value of animal product exports as well decreased from 2007 to 2013 (IMF, 2014). In 2014, mining accounted for 20% of GDP, twice the ratio of a decade ago, and is expected to contribute 50% by 2015 (Swiss Agency for Development and Cooperation, 2013). This sector and foreign investment related to it were the drivers of the startling economic growth that Mongolia experienced in the early 2010s, reaching 17.3% GDP growth in 2011 (U.S. Department of State, 2014). However, decrease in commodity prices caused a gradual decrease and, in 2015, GDP is estimated to have grown by only 2.3% (World Bank, 2015). The same history of crisis and recovery was not experienced by the agricultural sector, especially as far as herding is concerned. After 1990, state farms, which supplied crops for animal feeds, ceased to exist abruptly. *Negdel* (rural collectives) were dissolved and animal ownership was privatized. Virtually all physical (factories, farms) and socio-economic (channels) structures that supported the agricultural environment disappeared, causing a resumption of more traditional forms of livestock production. According to the World Bank, this trend is caused by “1) the collapse of the socialist support infrastructure, 2) the privatization of livestock, 3) lack of alternatives to continuation of pastoral grazing management and animal husbandry strategies, 4) withdrawal of direct government production support, and 5) a gradual assimilation of livestock producers into the market economy”. At the same time, this sector has lacked strong support from the government, which failed to turn the herding and agriculture into sectors able to respond to market needs. In the last few years, we have seen an increase in efforts from both the government and international organization to sustain the development of the agricultural sector, however, it will never equal the support provided by the socialist regime, as it is economically unfeasible.

2.3 Situation in Rural Mongolia

Agriculture employs 40% of total workforce (Integrated Livestock-based Livelihoods Support Programme, 2010). Since the transition to capitalism, in rural Mongolia, there are few alternatives to herding. Loss of state employment and the need for household security led an increase in size of the national herd, which 45,000,000 in 2014 (Zoljargal, 2014). Poverty rate in rural areas is 33% and income inequality is growing (Swiss Agency for Development and Cooperation, 2013). Herders' average annual income is MNT7,156,057, which is 25% lower than the national average (The World Bank, 2013).

People relying on animal husbandry have to face big challenges on their own. Since 1990, Mongolian livestock has been relying almost totally relies only on grazing, since herders cannot afford to buy feeds. Genetic selection programs have come to an end and access to veterinary assistance has become harder and harder. Lack of external support and the increasing number of livestock (which decreases the amount of grazing land available per animal) made animals weaker to adversities. Periodically, Mongolia experiences a climatic event known as *zud*. A *zud* is a summer characterized by drought followed by a colder than average and snowier winter. Animals are weaker because they cannot find enough nutrition during the summer, so they become easy victims of colder temperatures. Moreover, a typical Mongolian winter is, however cold, extremely dry with almost no snow on the ground. This allows animals to feed on dried, frozen grass even in colder months. In years with deep snow cover this is impossible and animals are at higher risk of starvation. Local *zud* take place every year in Mongolia, but in recent years national *zud* has become more and more common. In 1999-2000, 2000-2001 and 2001-2002 more than 8 million animals died because of *zud*. A similar number of livestock perished in 2009-2010, a loss of 20% country's stock population at the time. This affected directly 28% of Mongolia's human population (World Bank, 2012). Herders who lose their livelihood

as a consequence of these events have no choice left but urbanization. The three consecutive *zud* of 1999-2002 caused the migration of 70,000 people (around 3% of the population of Mongolia) to Ulaanbaatar, which, at the time, had less 700,000 inhabitants. The *zud* of 2009-2010 is estimated to have caused the migration of 20,000 people to Ulaanbaatar (Sridharan, 2013). Urbanization targeting provincial capitals also takes place, however, migration to Ulaanbaatar is the most drastic form of urbanization as it leads to severing links with the province of origin and, in most cases, is irreversible. Rural migrants set their *ger* (yurt) at the outskirts of cities, eventually creating squalid slums. The so-called “*Ger* District” in Ulaanbaatar is home to more than half of the city’s population (one fourth of Mongolia’s population), living without access to public services such as water, sewage and central heating (Asia Foundation, 2013). Dwellers of this area burn coal (usually lowest quality coal) in the winter to heat. This is the main cause of the thick fog of pollution that covers Ulaanbaatar in winter months, making it one of the most polluted cities in the world, with an air pollution index higher than Beijing. Moreover, unemployment among new settlers is high, leading to social problems such as alcoholism and domestic violence.

3. Significance of the Research

The unique culture of Mongolia has stimulated my curiosity for a long time, and I have been aware of the challenges and opportunities of Mongolia since before the 2011 economic boom. However, my attention was drawn closer to the issues of this country following the international interest Mongolia received in 2011-2012 and the sudden fall from grace that happened in 2013, as a result of lower commodity prices and political policies that discouraged foreign investment.

Knowing of the desperate condition in which people live in the “*Ger District*” I was trying to figure out ways to support those people. After doing some research, I realized that the cause of the problem is migration itself, so I started believing that helping Mongolians living in rural areas would be the best way to find relief to the “*Ger District*” problem. Moreover, the more I researched the more I understood that Mongolia has a great number of resources that encompass the mining sector and that are not being taken advantage of. Developing resources such as meat and dairy production would be a way not only to support rural Mongolians but also to alleviate the overreliance of Mongolia’s economy on the mining sector, building the base for a more sustainable economic development path. In addition to that, while I was in China, I realized that Mongolia is regarded as a country characterized by unspoiled nature and genuine meat (especially for what concerns lamb). And Mongolia is indeed one of the few places in the world where animals are still herded by nomadic herders and feed exclusively on natural products.

Indeed, the “*Ger District*” is only a symptom. And curing symptoms is not how you recover from a disease. The disease in question is the so-called “Dutch disease”, or overreliance on natural resources with the consequent decline of the other sectors. Coal and minerals account for 90% of the country’s exports. In the near future, 34% of Mongolia’s GDP will originate from one single mine, *Oyuu Tolgoi* (Mining Technology, 2010). After the end of the communist rule, Mongolia failed in

privatizing the formerly state-owned industries and businesses, which eventually collapsed. Nevertheless, Mongolia was able to become one of the fastest growing countries thanks to the aforementioned resources. Another miracle was that a country with 2.89million people and livestock population of 45 million faced shortages of meat and that between the 1990s and 2005, the almost totality of milk sold in Ulaanbaatar was obtained by imported milk-powder. A project by FAO and JICA was able to restore a dairy production network and solve this problem. At the same time, herders are left without any support from the government to get market access or respond to critical situation. This leads many to abandon their traditional lifestyle and move to the capital.

I believe that Mongolia has advantages that go beyond its mines. The abundance of animals and its international image as a country with a pristine nature make it possible to become a niche meat and dairy exporter, in an area which is heavily reliant on Australian and New Zealand products.

In 10 years, I would like to see Mongolian dairy products and meat in gourmet shops and restaurants all over the world. I would like animal products to become an important element of Mongolia's exports, with this country becoming a hub for animal research thanks to collaborations with developed countries, such as Japan and Switzerland.

Mongolia is taking crucial steps and it is fundamental that it takes the right ones for the sake of its citizens and to preserve its unique culture. The livestock sector needs to modernize to respond with international demand and meet global standards. However, I argue that modernization can be done preserving local tradition, which will ultimately become Mongolia's trademark.

4. My Initial Hypothesis

My “hypothesis is that technologic progress in logistics and processing can be the key to develop the Mongolian meat industry. The nomadic lifestyle of the herders can be a precious differentiator and source of appeal, allowing to beat competition from other countries.

Moreover, the development of this industry in respect with the lifestyle of the herders, can provide them with a stable source of revenue, prompting the continuation of their tradition.

The final objective is to be able to create a model that harmonizes a new economic opportunity for Mongolia and the conservation of its peculiar culture.” (From the proposal written in June 2015)

My initial hypothesis was that it was possible to support rural populations of Mongolia through the building of a business project that included the modernization of processing plants, creation of cooperatives of herders and connecting them with processing plants, assuring hygienic standards. The final part of my idea was to distribute the product to high end markets in China as an organic product of Mongolia using marketing techniques that stress on transparency.

My hypothesis included an analysis of the strengths and weaknesses of the Mongolia’s meat sector. Among the strengths there were: the high quality of Mongolian meat before processing, the new meat export agreements with China, growing support from international organizations and government for the meat sector, acquisition of the ISO 22000 international quality certification by one Mongolian meat producer. The weaknesses were: logistics (which I regarded as the biggest obstacle), foot-mouth disease (FMD) outbreaks, unstable political environment (lack of a consistent long term development plan for the country), low hygiene and quality standards in the cold chain and processing. I believed that quality issues could be overcome through partnerships with international companies (I thought especially of Japanese trading companies). Disease outbreaks seem to be tackled by the government so I assumed that a veterinary control system was being put in place. Moreover, the Western part of

Mongolia is relatively disease-free. I thought of the unstable political environment as a big issue, however, current agreements with China seemed to show that Mongolian politicians are making the right decisions and I assumed that such treaties are usually not revoked.

Logistic was by far my number one concern. Mongolia has only a handful of paved roads outside Ulaanbaatar. Railways link the capital with Russia, China and mining areas but do not pass by regions that I had chosen as a potential target. Most provinces have airports, but it seemed to me as economically unfeasible. Considering what areas of Mongolia need the greatest support and what areas are disease free, I had decided to focus on Western Mongolia, nevertheless, logistic issues appeared to me as too big an obstacle, so I chose Bulgan Province, which lies north of Ulaanbaatar: “Another important factor is the social one. It is important to focus the project in an area that suffers from high emigration and unemployment rates to maximize the positive impact of the project.

Moreover, Mongolia has very limited infrastructures. Regions are linked with each other almost exclusively by unpaved roads, only five roads being paved. Logistic is fundamental in the meat conservation process, for this reason it is advisable to choose a region that is linked with Ulaanbaatar by paved roads, which limits the choice greatly.

Taking into account all the aforementioned conditions, we believe that the region of Bulgan is the most suitable to begin a meat export business. Bulgan lies 800km northwest of Ulaanbaatar, to which it is linked by a paved road. Moreover, in recent years it experienced a decrease in population density and livestock number. It is not in the FMD-free Western Mongolia, but it is very close, which makes it unlikely for Bulgan to experience extensive FMD outbreaks.” (From the proposal written in June 2015).

ACTUAL SITUATION

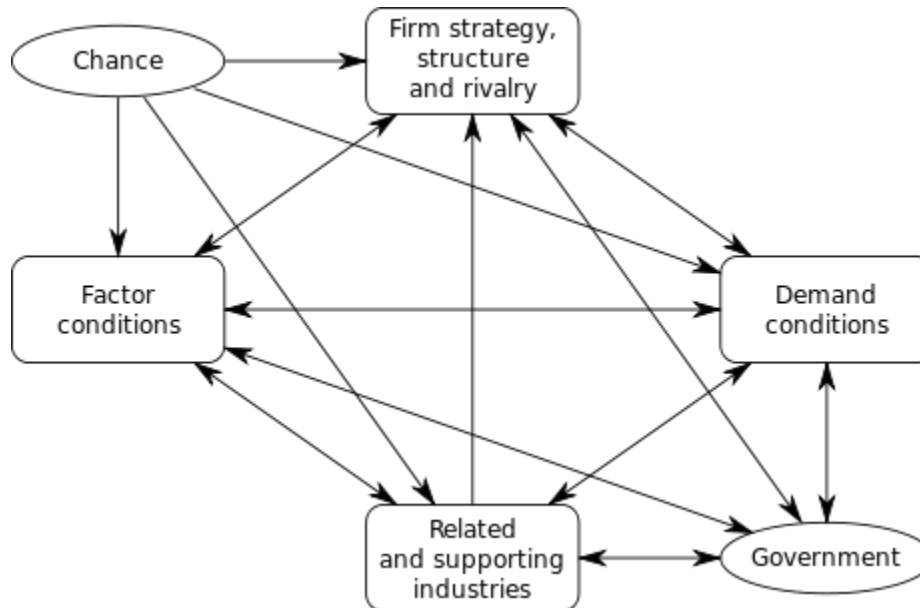
5. Hypothesis test

In order to test my hypothesis, I visited Mongolia and conducted interviews to key people both from NGOs and from the world of business. I interviewed: Bolor Lombo, CEO of Makh Market LLC, the most important meat processor and exporter in the country and the only one that ISO 22000 international quality certification; Anar Enkhbold, head of marketing and trade for the same company; Jennifer Bielman, country director for Mercy Corps Mongolia, an American NGO active in supporting rural communities from a socioeconomic point of view; Sugar Ochir, manager of the European Union Technical Office in Ulaanbaatar; Junichi Arai, project formulation adviser at the Japan International Cooperation Agency – Mongolia Office; Badruun Gardi, former advisor at the Zorig Foundation and currently CEO of Gerhub, a startup focusing on innovation to tackle social problems in the Mongolian capital.

I compared and added the information that I collected in Mongolia to the material that I had previously gathered in various journals and specialized publications.

6. Mongolia

6.1 Porter's Diamond Model of National Advantage



Some countries are more successful in certain industries than others. How about Mongolia?

Factor Conditions:

- **Human Resources:** Thanks to its socialist past, Mongolia can count on a relatively well-educated population. However, the its quality is highly variable from school to school because of the lack of standard training and evaluation programs for teachers (Unesco, 2011). Nevertheless, in Mongolia we see a growing number Chinese workers. According to Jeffery Reeves, author of the book “Chinese Foreign Relations with Weak Peripheral States”, this is because both Mongolian and Chinese firms prefer to hire Chinese workers as they work for longer hours for less money, and they are considered more reliable. However, with a minimum hourly wage of \$1.18, Mongolia can be considered a low labor cost country (World Bank, 2015).

- **Physical Resources:** Mongolia has a great advantage as far as physical resources are concerned. With only 3 million inhabitants and 45 million heads of livestock and the second highest sheep/people ratio in the world after New Zealand it is blessed by a great availability of livestock and pasture land (FAO). However, Mongolia's severe weather makes growth of hay difficult, for this reason domestic production of feeds is not economically sustainable. It is important to notice that, currently, the almost totality of Mongolian livestock relies on free grazing and feeds are not used by local herders.
- **Knowledge Resources:** Herding has been at the base of Mongolian culture for thousands of year, for this reason Mongolians have developed an incomparable knowledge about animal husbandry. However, more modern scientific knowledge such as genetic selection is still very low.
- **Capital resources:** Mongolia is a developing country receiving substantial economic support from various international actors and foreign agencies. According to donors, in 2010 total donations to Mongolia totaled \$305 million, however, it is interesting notice that the Mongolian government declared donations for only \$58 million. In addition to that, Mongolia is receiving income from royalties and tax payments of foreign mining companies operating in Mongolia.
- **Infrastructures:** Outside Ulaanbaatar, Mongolia lacks basic infrastructures such as paved roads, in 2009 only 67% of the population had access to energy and only 35% to water (Eurasia Capital, 2009). Lack of infrastructures is considered the biggest bottleneck to the development of Mongolia and the government is determined to tackle it.

If we divide between basic factors and advanced factors, we see that Mongolia scores high in basic factors (ex. Natural resources), but low on advanced factors (the ones that depend on reinvestments and innovation).

Demand Conditions: Domestic demand for meat is not a source of advantage. In fact, local tastes are very different from international standards. Mongolians tend to consume older animals, in the case of cattle it is often cows that are too old to produce milk. Foreign markets tend to request lambs or calves because their meat is more tender.

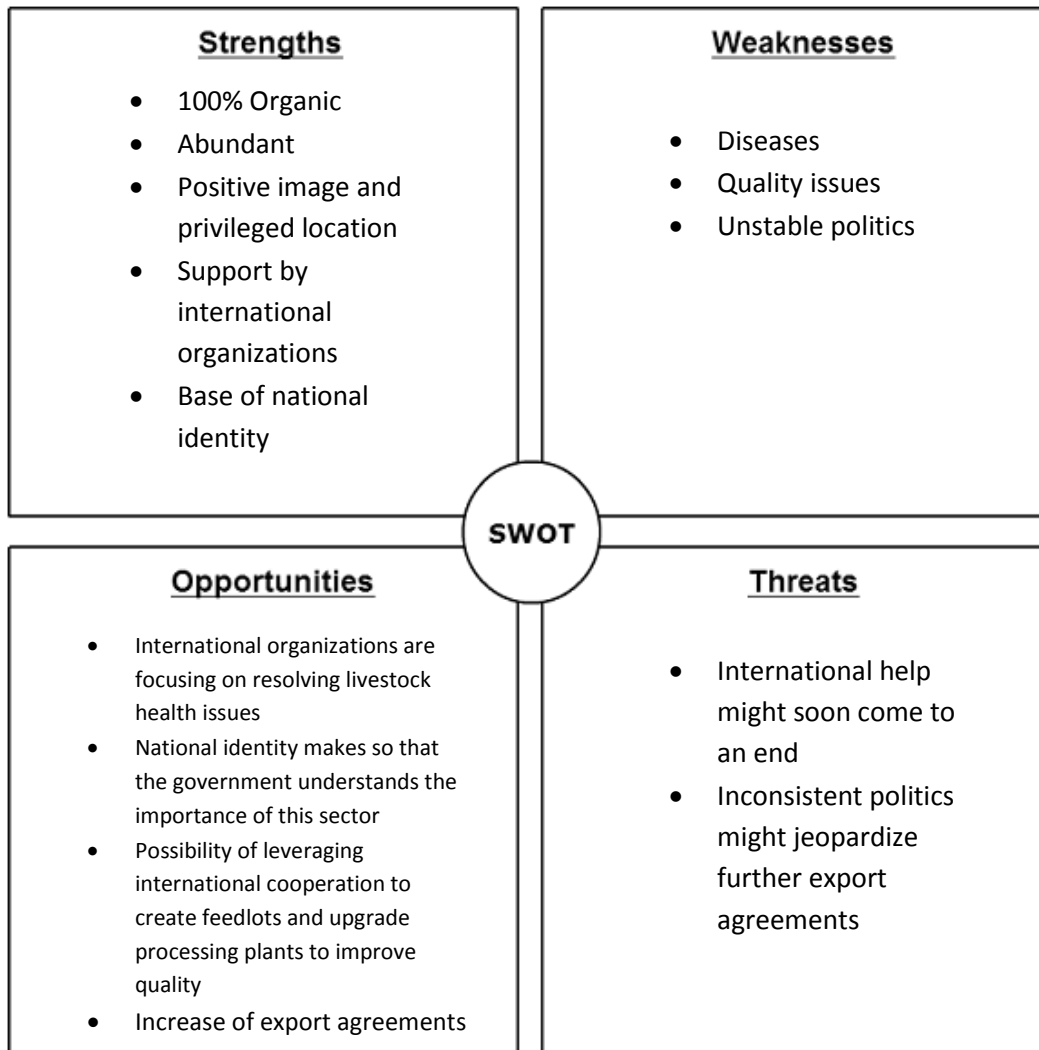
Firm Strategy, Structure and Rivalry: Rivalry in the meat sector is almost absent. Production is scattered among a myriad of herders and traders and there are very few companies that operate in this sector. Even less companies can trade with foreign countries. For this reason it is hard to think of a Mongolian company which has developed a home-grown competitive structure. Moreover, market economy is relatively new to this country. It is easier to imagine a company formed as a joint venture with a foreign investors and has learnt competitive dynamics from its foreign partners.

Related and Supporting Industries: The modernization of the meat production industry in Mongolia will require support of external players. I will argue later that Japanese technology would be a good suit. That is why, it could be the occasion of an international cooperation that would make export easier. Moreover, meat production in Mongolia is parallel with dairy and fiber production, and yields natural fertilizer. This gives the possibility to expand trade to these products, reaching economies of scale and coordinating activities in the value chain.

Government: This is one of the biggest hurdles in Mongolia. During all my interviews in Mongolia, politics was considered a constant worry. Junichi Arai, Project Formulation Adviser at the Japan International Cooperation Agency (JICA) in Mongolia, said that political instability is a major problem for the development of Mongolia. He said that even cooperation agencies have a hard time in collaborating with political institutions because of various and sudden changes. For example, until June 2012, the point of contact for international donor agencies in Mongolia was the Ministry of Finance, however, after this date, it became the Ministry of Economic Development and in 2014, again, it

became the Ministry of Finance. This makes it impossible for ministers and miniseries to accumulate knowledge and make long term plans. Moreover, even though elections happen once every 4 years, there are often cabinet changes, which make the political environment unstable and jeopardize the possibility to build a consistent strategy and increase country risk. Instability damages Mongolia's credibility as a partner and discourages foreign investments. According to Mr. Arai, the government's main worry are mega projects such as the Oyu Tolgoi mining project, as they are a stable source of money that can reinvested in infrastructures. According to Jennifer Bielman of Mercy Corps, regional governments are also problematic, since corruption is endemic and local politicians lack necessary administrative skills.

7. SWOT Analysis: The Mongolian Meat Sector



Opportunities:

According to Mr. Anar Enkhbold of Makh Market (the biggest meat producer of Mongolia), Mongolian livestock feeds exclusively on grass through grazing. This is consistent with the fact that feeds are too expensive and that also big players such as Makh Market buy meat from individual herders or traders that buy it from individual herders. Moreover, as we saw previously, Mongolia has a very high number of livestock compared to its low human population, a necessary condition to become an exporting country. In addition to that, during my experience in China, I noticed how Mongolia is regarded as

pristine country with high quality meat by its southern neighbor, even if at that time Mongolia did not export meat to China. This is due to the fact that the Chinese Province of Inner Mongolia is one of the most important areas of meat and dairy production of the country, and the same image is applied to the Outer Mongolia (the independent country). It is also important to notice that Mongolia is the only country in East Asia that has the potential to become an exporter of meat products, in an area where demand is surging. Currently, most of the meat imported by China, Japan and Korea originates from Australia, New Zealand, the U.S. and South America. Mongolia has an unbeatable logistic advantage: Ulaanbaatar is only two hours by air from Beijing and is linked to the Chinese capital by railway.

Moreover, international organizations from all over the world are dedicated in supporting rural Mongolia through various projects that include dairy and meat production. I personally talked with people from JICA, Mercy Corps and the European Union Technical Office in Ulaanbaatar, all organizations with projects in this sector. However, the most active organization in livestock industry development is, by far, the Swiss Cooperation Office (SCO). According to Jennifer Bielman, Switzerland feels a bound with Mongolia because both countries' traditions are based in dairy and animal production. The SCO has recently started a cooperative system in Western Mongolia targeting small herders in a project called "Green Gold". Since October 2015, Makh Market has started cooperating with the SCO and the aforementioned cooperatives will become some of the company's suppliers. Organizations such as OIE and FAO are active in assisting Mongolia in Foot and Mouth Disease (FMD) prevention. From a political point of view, even though the environment is very unstable, herders are a category in which all can identify themselves Mongolians and respect. Jennifer Bielman said that in her previous assignments in Eastern Africa she saw a contraposition between agriculturalists and pastoralists. Particularly in Ethiopia, ethnic groups can be divided in these two categories. As the political class tend to come from ethnic groups that are traditionally agriculturists, they often choose policies which are detrimental the pastoralist heritage of part of the country.

However, Mongolia is a very homogeneous country with a shared pastoralist culture. For this reason, the government will never be against this group. The Mongolian government has recently concluded agreements with China that allow six Mongolian companies including Makh Market to export processed meat products (ex. sausages) to China, which adds to existing agreements with North Korea, Vietnam, Russia, Azerbaijan and Iran. The hope is that the agreement with China will become more comprehensive and that more countries will establish similar agreements with Mongolia.

Risks:

FMD is clearly a pressing issue. In fact, according to the OIE, countries affected by FMD cannot export meat products freely and have to follow certain processes before the meat can be allowed to be exported. According to Mr. Arai, for Mongolian meat to be allowed in Japan, it would have to be processed through high-temperature heating technologies. As these technologies are lacking in Mongolia, export to Japan is out of discussion unless FMD is eradicated. According to Mr. Enkhbold, the current agreement of Mongolia with the OIE states that if FMD is found in Mongolia, exports from all of Mongolia must be halted. However, other countries have agreements where the country is divided in special zone, so that if FMD is found in a certain area, it does not prevent other areas from exporting. According to Mr. Enkhbold the agreement should be renegotiated, but this can only be done by the Mongolian government. Quality is a problem in two ways, one is that most processing and slaughtering facilities do not meet international standards (Makh Market is the only meat producer in the country with international quality certificates). Additionally, the type of meat is not what consumers in developing countries demand. Mongolians eat only old animals for traditional reasons, so meat is not as tender as what is available in most developed countries. During my interview with Mr. Enkhbold, I was told that Makh Market tried to purchase younger animals but herders do not want to slaughter or sell

for slaughtering young animals. Apparently, lams and calves spend their first winter in the *ger* with the herder's family, creating a bond. For this reason, slaughtering a young animal is not considered acceptable. Unstable politics is also a problem as consistency in policies for the support of the sector and in planning export agreement with other countries is necessary.

8. Suggestion

During my conversation with Jennifer Bielman, she affirmed that, however the Mongolian government is not an antagonist of the herders, some of the policies that it wants to implement could be detrimental to the country's herding tradition. Especially, she said that the government sees extensive livestock production and intensive livestock production as two opposed systems. The Mongolian traditional method is extensive, as it relies on the use of vast grazing areas, while modern approaches tend to be intensive, where animals live in barns and are fed in feedlots. This approach is traditional in Japan, where grazing areas are almost absent (Longworth, 1983). However, according to Jennifer Bielman, it is possible to combine both methods. Specifically she talks about leaving the first part of the animal's life with the herders where it can graze freely. The animal will be later sold to feedlots (not slaughterhouses), where it can reach the levels of quality demanded by foreign markets and be slaughtered and processed in controlled and hygienic ways.

Comparing Mongolia to Botswana is very interesting. Botswana has a traditional culture based on transhumance herding, like Mongolia. Botswana is the biggest beef exporter in Africa and it is trying to position itself as a high end producer. Although modern farming systems have become popular in recent years, 50% of the meat that is exported originates from animals raised by small holder farmers, usually individuals just like Mongolia's herders. These animals are bought by large suppliers such as feedlots and cooperatives, and finally they are slaughtered, processed and exported by the Botswana Meat Corporation, a government owned company that has the monopoly of the country's meat export. (Van Engelen, 2013).

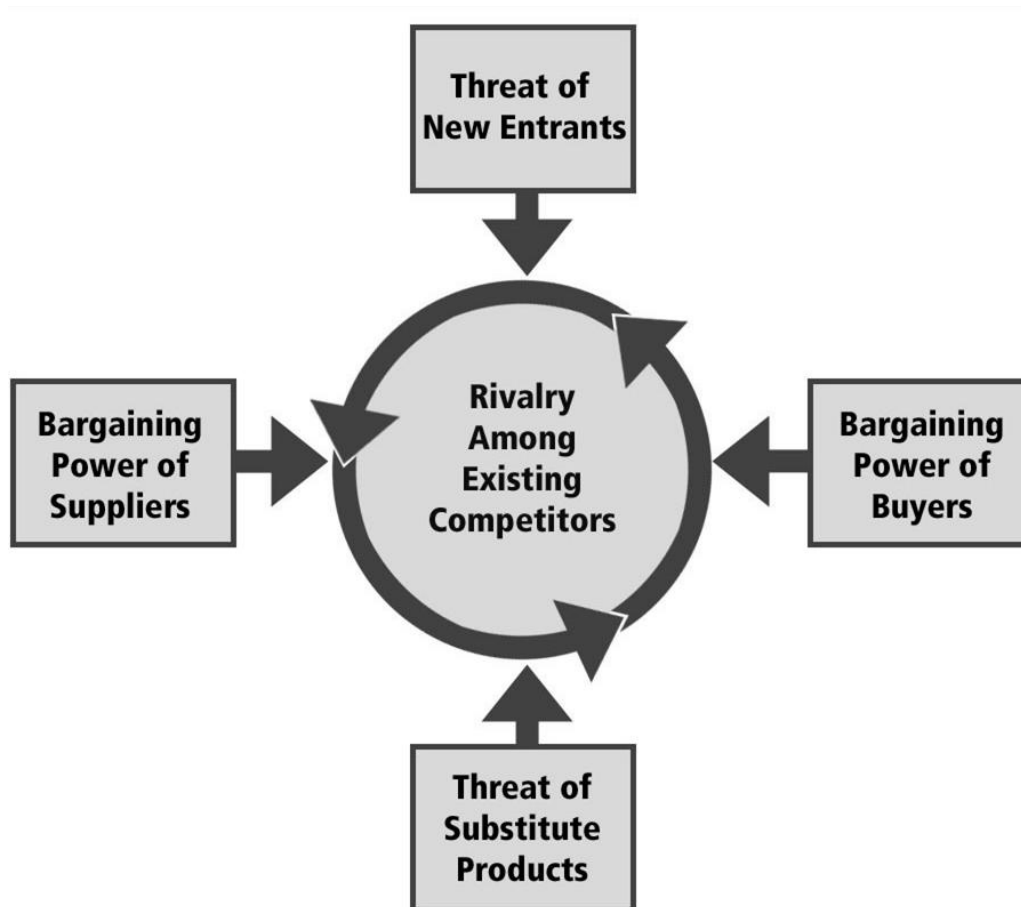
Botswana is characterized by a very strong government with the one political party being at power since independence. As we mentioned before, Mongolia's political environment is weak, for this reason it is impossible to see a such a monopolistic phenomenon to take place in this country.

Nevertheless, it shows that it is possible to combine intensive livestock production with extensive livestock production. Moreover, the same role played by the Botswana Meat Corporation could be played by a private actor in Mongolia, which, in cooperation with local NGOs could coordinate herders build feedlots, manage slaughterhouses and processing.

Feedlots are the key to improve the quality of Mongolian meat, since they allow to control and standardize the feeding process. Moreover, they allow a less traumatic separation between herders and livestock. We saw that Mongolian herders avoid selling young animals to slaughterhouses for cultural reasons. However, selling young animals to a feedlot could be more easily accepted. Once the animal is under the ownership of the company that owns the feedlot, the company will have the freedom of slaughtering the animal whenever they need, supplying younger meat, which is now lacking. A strong international investor with relevant know-how would be the ideal candidate to implement such a project in Mongolia. I focused on Asian trading companies, since Mongolian meat would be mainly exported to neighboring Asian countries. Among these companies, I chose Kanematsu. Kanematsu is a Fortune2000 Japanese trading company based in Tokyo. One of its main focuses is agriculture and has recently acquired Farmnote, an IT venture based in Hokkaido which produces collars that monitor herds' physical activity (Nikkei Asian Review, 2015). Moreover, it is one of the world's biggest producers of animal feeds and is already active in the livestock sector in Asia, having entered the dairy business in Vietnam. Considering the difficulties in exporting Mongolian meat to Japan, I believe that Kanematsu should focus on the domestic and Chinese market. The blend of Japanese technology and Mongolian tradition seem a promising mix to reform the Mongolian meat and dairy industries.

9. Project's Analysis

5 Forces Analysis



Bargaining Power of Suppliers: Kanematsu would be the herders' partner, and would have a higher bargaining power compared to them. Moreover, it would not be in the herders' interest to threaten Kanematsu, as no companies in Mongolia offer a stable livestock purchase contracts to herders (Makh Market buys animals according to orders received).

Threat of New Entrants: Should Kanematsu be successful, the appeal of the meat and dairy sector in Mongolia would increase, however, both from regulation and technology issues, entry barriers are extremely high.

Threat of Substitute Products: Consumption of meat in Mongolia has been decreasing in the last 50 years as other foods become available. (FAO) However, as the countries becomes more and more wealthy, consumers will become more and more demanding about the quality of meat. Moreover, neighboring Asian countries (especially China) are consuming more and more meat as income grows and western diets gain popularity.

Bargaining Power of Buyers: Consumers both in Mongolia and China have access to various sources of meat, for this reason, if price was not consistent with quality, Kanematsu would incur substantial losses. For example, Mongolians can purchase meat at supermarkets from companies such as Makh Market, buy it directly from herders or buy it from traders in places such as Ulaanbaatar meat market.

Rivalry Among Existing Competitors: A situation of rivalry is inevitable among companies in this sector, however, considering Mongolia's livestock and the demand of countries such as China, the potential of the market is big enough to accommodate multiple players. Talking to Mr. Enkhbat, I realized that he is very supportive of other companies reaching the quality standards of Makh Market, as it is a meaningful step forward for Mongolia.

10. Economic Calculation

Such a project would not only allow herder to achieve higher earnings, but especially more stable salaries. The main reason of low income in herders' families is that they generally sell their outputs middlemen, who do not pay differently according to quality. This makes so that herders are not incentivized to increase the quality of their animals, and the only way to get higher income is to increase the herd (Development Income Evaluation Initiative, 2013).

In case the project was implemented, we could estimate a revenue increase equal to double the current income. This is mainly due to access to the Chinese market, where higher prices allow the company to pay more for each animal.

1kg of beef in Ulaanbaatar was sold at maximum 7,000MNT (\$3.5), while the average price in China was more than 60CNY (\$9.2) in *retail* prices (Zoljargal, 2013). *Wholesale* prices in China were \$3.6 per kg for Indian beef (the cheapest one) and \$4.5 for Australian one, which is considered medium quality (Reuters, 2014). According to Bolor Lombo of Makh Market, the wholesale price for 1kg of beef in Mongolia is \$0.8. If Mongolian beef could access the Chinese market and achieve a medium level of quality, we could aim at a wholesale price at least four times higher than the current one. Even if we consider that achieving such a level of quality would involve substantial investments, we suppose that herders could be paid three times more than current prices for their live animals (which now account for 40.9% of the herders' income). In such a scenario, the herders' income would increase by 81%, reaching MNT12,590,000 per year, which is 36% higher than the national average (The World Bank, 2013) .

11. Conclusion

Mongolia is a country with a huge potential and the possibility to diversify its economy, which is now overwhelmingly dependent on mining. Although mining is likely remain the most important source of revenue for this country, it is important to invest in diversification.

The livestock sector not only can count on Mongolia's natural advantages, but also on the country's tradition which is based nomadic herding. If nomadic herding was leveraged in the right way and blended with modern technologies, Mongolia's livestock sector could become an important source of export and increase the country's visibility while fostering its cultural heritage.

Clearly, a great number of obstacles still need to be overcome. Foot-and-mouth disease (FMD) is a big hurdle to export in many countries such as Japan. Moreover, the weakness of Mongolia's government does not allow visionary strategies for national development of this industry. Initiative is left to the private sector, but there are fields where the government's intervention is needed, such as negotiations with the World Organization for Animal Health to declare Western Mongolia as an FMD-free zone.

However, in the last year we have seen some progress that leaves room for optimism. Mongolia's government managed to sign an agreement with China for the export of processed meat products and Mongolia companies are taking advantage of this positive environment.

I believe that the agricultural sector in Mongolia is an interesting field for foreign investors with relevant know-how, since Mongolia is the only country in East Asia which has the potential of becoming a dairy and meat-product exporter in area where consumption of such product is skyrocketing.

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I would like to thank the following people for the support received: Professor Masao Okada, the Otsuka Toshimi Foundation, Bolor Lombo and Anar Enkhbold (Makh Market), Junichi Arai (JICA Mongolia), Jennifer Bielman (Mercy Corps), Badruun Gardi (Gerhub), Sugar Ochir (EU Technical Office in Ulaanbaatar), my family.