RURAL AGRI-BUSINESS
SUPPORT PROGRAM

REPORT ON BEEF SUB-SECTOR VALUE CHAIN ANALYSES

ULAANBAATAR
2008

CONTENT

Acronyms
AR- Arhangai
BDO- Business development organization
kg- kilogram
AHSRI- Animal Husbandry Scientific Research Institute
SU- Suhbaatar
NGO- Non government organizations
MNT-Mongolian tugrik
UB- Ulaanbaatar
RASP- Rural Agri-Business Support Program
MoFA- Ministry of Food and Agriculture
LLC- Limited Liability Company
AoS-Academy of Sciences
USD – United States dollar

Report compiled by: Ulgiit Erdenebileg,
Senior Agricultural Officer, RASP

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- Herders of aforementioned aimags, managers of meat processing factories, meat changers (itinerant traders) and consumers for their valuable input for the study

Executive Summary

Mongolia's beef sub-sector value chain study was conducted in Arhangai, Selenge aimags and Ulaanbaatar City, the areas that could fully represent current conditions of the meat industry sector, from November 2007 to 29 February 2008. Principal study goal was to research the structure and key stakeholders of beef value chain, to identify needs of business development services to increase sector's income, improve competitiveness and unveil initiatives to support the sustainability of beef production sub- sector.

Reasons for selecting beef sub-sector

Although Mongolia's livestock is constantly increasing in terms of quantity, there is a decreasing amount of meat consumption per person and increasing meat market price. Currently approximately 35% of all meat consumption of Mongolian population is taken by beef, but this figure will likely jump to 48.7-54.8% as the considerable attention to food quality/security, demand for lean meat consumption and increase in income will surely emerge furthermore. Current beef production and sales turnover fails in coping with growing demand, consequently average beef market price has been skyrocketed as much as 2.7 times during past but relatively short period. Based on these factual data, we selected beef sub-sector for the value chain, as there is potential likelihood of increasing income and improving competitiveness in/of this sub-sector by slightly improving beef production and its market supply.

Beef market intro

Mongolia exports 3000 thousand tones of fresh and frozen meat to Russian Federation every year at the price of 0.8-16 USD, which is considered as relatively lower price than the prevailing domestic market averages, 2500-3000 MNT per kg. Structurally, 42.2 % of urban and 31.9 % of rural population consume beef as the part of their daily food intake. Of the total population, 62-79% supplies their consumption both with beef and mutton. Beef sells at its peak price through June-August, while January-May is considered as other peak selling time. But at this latter period meat is not directly sold fresh supplied by herders to store sellers, but it is sold as a yearling, heifer or steer (young cattle) to be fed for later sale after additional weight gain. Caused by the fact that pasture driven animal husbandry makes entire herd unable to gain sufficient weight during winter and spring, so UB's meat markets do not sell fresh meat until mid August, which is the key reason of meat price goes up.

Peculiarities of beef sub-sector

Key stakeholders of beef sub-sector mainly consists of herders (Mongolian herders do not raise one particular type of specific animals, rather they have mixed type animals, but they raise cattle for approximately 17-19% of their livestock), changers-intermediaries or cattle traders, representatives of slaughter plants and meat processors and retail/wholesale sellers operating at the marketplaces of aimag centers and larger cities. For the beef business, veterinary service, livestock hay grass/fodder/natural salt and financial services are the primary inputs for this type of business. Slaughter plants operate seasonally from September till the end of November while the changers purchase live cattle in February-May to feed on pasture for extra weight to be sold in August – September. An average changer earns 30-70 000 MNT per cattle profit from such a business. Of the total cattle sold out for changers, 55.5% takes young cattle, 45% cow, oxen or adult/mature cattle.

Practically no value added service exits except meat sellers in food stores and public markets de-bone beef for retail sale. There is virtually no business has been developed and engaged in specialty businesses such as sorted beef and beef for luxury consumption (sirloin & fillet) at all.

Key obstacles and opportunities of beef sub-sector

Mongolia's beef sub-sector has been determined to have the following obstacles affecting its further solid growth and competitiveness. They are:

I. Current production and supply can not adequately provide increasing demand on domestic market, thus causing shortage in supply.
II. Business operators have weak knowledge on operating their business viable and sustainable, no value added processing is done at all levels; from herder household to final consumer, and this certainly causes business profitability plummet.
III. In case that beef producers are isolated from market, other support services such as preserving and transporting are required, but do not exits, in addition to that stakeholders in meat market have weak link with each other and they are often in shortage of required information.

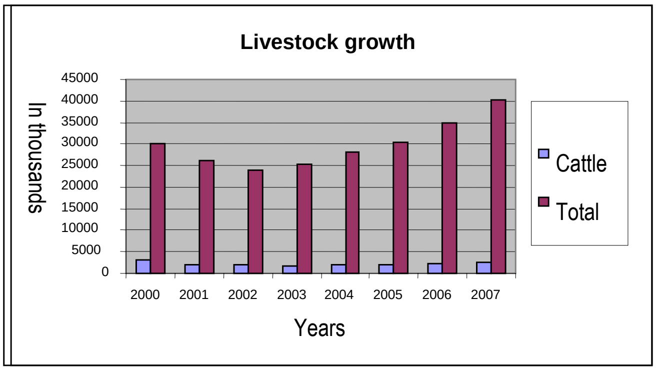
Business development services targeted on eliminating obstacles existing in beef sub-sector

- Support beef producers to feed young cattle over the winter so that they start beef marketing earlier at the appropriate time, add cattle weight through feedlots, facilitate beef marketing earlier in spring time, provide cattle breeders with training and consulting, organize demo trainings and support businesses that aim at providing market with meat early in spring
- Expand training/technical assistances for meat businesses on technology of value added beef through classification, dried meat "sirloin steak" production and support business of this type. Develop posters to promote increase in consumption of classified meat and support business on classified meat
- Assist herders to supply high class restaurants and chains with luxury and high-cost parts like sirloin/top lion/fillet
- Enhance inter-business linkages by organizing meetings among slaughter plants and herder groups (with sufficient quantity of cattle) & beef production coops for long-term contracts, negotiate purchase conditions and set incentives for standard quality and sufficient amount of beef supply
- Assist and develop supporting market of transporting meat in refrigerated vehicles to central market
- Add up meat storage capacity by introducing ice-cooled storehouse technology and assist in making supply and demand sustainable
- Train herders on identifying cattle live weight and support business service that facilitate herders to find easy-to-use measurement devices

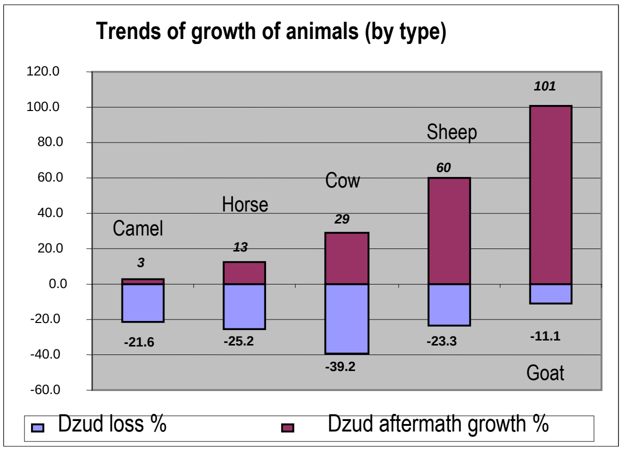
1. Introduction

1.1 Brief intro on Mongolia's meat sector

According to Mongolian statistics bulletin and food research papers, total meat consumption of Mongolia is composed of 69.3% animal meat, 2.3% pork, 0.4% poultry, 15% sausage & canned meat and 13% of fish/ sea food. Average figures for last seven years indicate that each person consumes 103.2 kg of meat and meat products annually. This amount has been observed to be relatively lower in urban areas with 86.4 kg while the rural consumption was 121.2 kg per person. Average live weight of animals slaughtered for meat purpose is counted to be 245 kg for cattle, 39 kg for sheep and 33 kg for goat. Residents of Ulaanbaatar city spend 17.4-19.5% of their food expenditures for meat, while rural residents spend 11.8-12.2% of their food expenditure for meat only.



Mongolia's animal husbandry sector is growing every year; however meat amount for per person decreases along with market price increase simultaneously and contrary. On the other hand, beef production, most influential part of meat sector business, has had no tangible growth since 2000. For the figures on growth of livestock in Mongolia refer to Table One.
(See also Table One in Attachment section).



By 2000, Mongolia's livestock quantity drastically increased to over 30 million, but 21.4% (41% of cattle) of all animals were hit by natural disaster *dzud* and drought, which lasted for consecutive years of 2001 and 2002. Since that time, favorable climatic conditions resulted in number of livestock climb to 40.3 million (68% of growth). Interestingly, goat, which was died in *dzud* disaster at the minimal number, was doubled (101%) in terms of number, but the cattle, which faced the highest loss in amount, increased only by 73.2%, according to the graphs provided hereto.

Table 1

Number of livestock consumed for food (in thousands)

Years	2000	2001	2002	2003	2004	2005	2006	2007
Camel	47.1	45.4	31.8	20.7	33.3	33.4	29.3	
Horse	477.9	327.9	314.2	193.6	317.6	324.5	277.9	
Cattle	886.6	549.6	502.5	388.7	454.2	389.5	367.8	
Sheep	4306.2	3916.5	3739.6	3104.4	3204.3	2918.2	2896.1	
Goat	2401.5	1924	1488	1327.1	2395.5	2618.8	2326.9	
Total	**8119.3**	**6763.4**	**6076.1**	**5034.5**	**6404.9**	**6284.4**	**5898**	**0**

Resource: Statistics Bulletin of Mongolia, 2000-2006

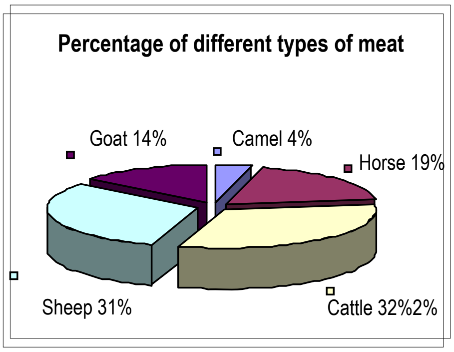
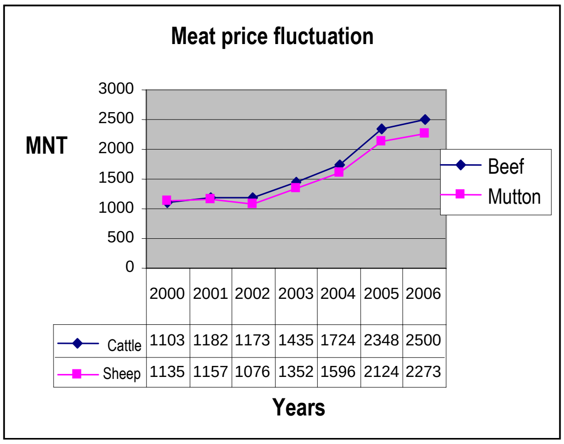


Table 1 demonstrates that there was not any structural change in the livestock consumed for food each year.

Study on what meat is dominated in consumer foodstuff basket, 32% belongs to beef, 31% mutton, 19% horse, 14% goat and 4% camel meat. As production of beef, which has highest share in total meat consumption, can not supply increasing consumer demand, consecutively there are some negative phenomenon like decreasing consumption and increasing price. These facts can be verified by the following data. For last 7 years after 2000, average beef price increased as much as 2.7 times mainly influenced by petrol price increase and inflation (to some extent), but the largest proportion of price increase was linked to shortage of beef supply.

On the other hand, population's meat consumption is dropping every year, probably the reason being the shortage of beef, the key consumption foodstuff. With drop of meat consumption, there will likely be some adverse effects like loss of food safety, according to the previous studies among the citizens of some aimags.



1.2 Beef sub-sector value chain study, its goal and methodology

Survey goal:

Carrying analyses on beef sub-sector value chain, which has vital role in rural economic development and develop business services to improve the competitiveness of the sector

Survey scope:

Beef value chain study was conducted in Arhangai and Suhbaatar aimags, areas with highest beef production and relatively better linkage to market, for four soums including the aimag centers and Ulaanbaatar city. The soums were selected under the criteria of cattle quantity. The soums include:

- Undur-Ulaan, Ih Tamir and Chuluut soums of Arhangai aimag
- Tumentsogt, Munhhaan an Erdenetsagaan soums of Suhbaatar aimag
- Wholesale and retail meat sellers of above aimags
- Heads and managers of Arhangai and Suhbaatar aimag meat processing factories
- Wholesale and retail meat sellers of UB's Huchit Shonhor, Harhorin and Mercury markets, Minuu Delguur, Mah Market and some other sausage factory representatives
- Consumers of UB and selected aimags

As part of beef value chain we collected questionnaire survey data from 50 UB consumers, 44 Arhangai and Suhbaatar aimag center consumers, 61 herder-beef producers and 20 herder-changers and intermediaries coupled with meeting to important 15 business operators and business managers and 7 focus group interviews.

Survey methodology

Phase 1: Sub- sector value chain selection

Using the secondary data available at aimag and national level, we selected the sub-sector based on the potential of contribution to local economy, income generation for participating businesses and the number of stakeholders in the sub- sector.

Phase 2: Sub-sector/value chain study

At this phase, we collected quantative data, press review and secondary data related to previously selected sub-sector/value chain. Data on this phase also includes previous surveys and researches, statistics, agricultural sector study, local government documents, government near and mid-term programs on agricultural sector development and customs statistics. All gathered information are sourced and referenced to the data source.

As the second round of data collection, we conducted interviews and discussion with key stakeholders (including decision makers who are well equipped with sector related information) and questionnaire survey in order to secure authenticity of some primary data. Throughout this round, we identified all stakeholders in sub-sectors, vertical and horizontal relevance/linkage in-between stakeholders, their collaboration (what they sell and buy), the level of linkage and market share of each stakeholder in definite figures and percentages followed up by mapping of sub-sector/ value chain.

In identifying obstacles/opportunities, interviews and discussions were held on following issues as obligatory. They are:

- Technology/Product development
- Market
- Input supply
- Management/ organization
- Policy regulation
- Financing
- Infrastructure

Throughout the study, we identified not only obstacles/ opportunities of sub-sector/value chain, but also we carried out to (i) unveil the influence of linkage in value chain, (ii) define collaboration of businesses that are in horizontal and vertical linkage, (iii) compare compliance of world standards at local level.

Phase 3: Identifying commercial or market solutions

In this phase, we identified reasons for previously determined obstacles/opportunities as well as business solutions aimed at eliminating these obstacles. Business solutions were often coupled with identifying potential body to effectively implement these solutions that will undertake on commercial basis. In identifying solutions, we did not pay huge attention to describing what the program can do.

The solutions were selected among all possible commercial solutions upon prioritizing them in accordance with the importance.

Phase 4. Assessment of solutions

At aimag level, information sharing meetings on solutions demand (who will use the solutions?), supply (who will implement solutions?) and costs (who will pay the implementation cost?) on each of the commercial solutions were organized throughout the entire assessment process.

In assessing solutions, we conducted variety of discussions and debates among potential solutions implementing bodies and their consumers at the aimag centers. The assessment was largely focused on collecting and considering information related to the following:

- Currently available solution implementing bodies
- Market, its potential and entry to market of solutions application
- Frequency of solutions application
- Demand and supply of solutions
- Satisfaction on solutions implementation
- Level of recognition on use of solutions
- Proposed implementing bodies for implementation of solutions and implementation cost recovery scheme
- Impact of solutions on sub-sector

Phase 5: Identify program involvement or implementing actions

Based on data created throughout the previous phases, we identified obstacles that the consumers and solutions implementing bodies may encounter in course of implementation as well our intervention in the process followed up by detailed action plan.

II. Peculiarities of beef sub-sector

2.1 Final users in beef sub-sector

A. Foreign market. Though beef export is not so well developed in Mongolia, the country's authorities managed to negotiate with Russian counterparts in selling frozen beef carcasses (under the condition that the meat has to be processed in standard factories) at the end of 1990'ies. After the inception of the export, the total export amount dropped in 2002 caused by decrease in livestock quantity as well influenced by lower buying price of the Russian importers; an average of 0.8-1.6 USD for a kg was not so competitive even with domestic price. Aside from this, spread of foot and mouth occurred in 2000-2005 in western regions of Mongolia, which affected beef export to restriction. Currently 26 slaughter and processing plants are operating throughout Mongolia as part of the meat processing industry.

Table 2

Total amount of export to Russia, export price (2005-2006)

Meat	2005			2006		
	Amount, tonnes	Total price, USD	Unit price, USD	Amount, tonnes	Total price, USD	Unit price, USD
Fresh beef	27.3	24.5	0.9	194.6	309.6	1.6
Frozen beef	2792.4	3185.4	1.1	2659.8	4379	1.6

Resource: Statistics Bulletin of Mongolia, 2006

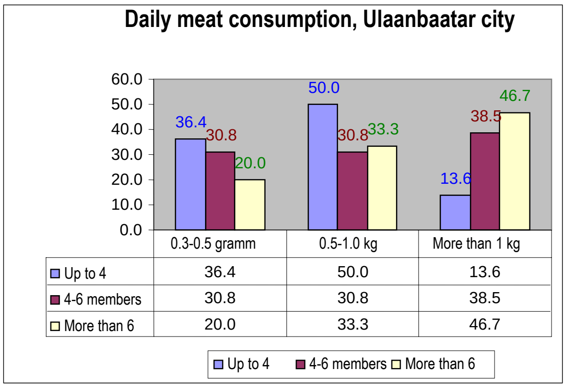
B. Domestic market. As part of entire value chain study, we also carried a consecutive survey to identify role of beef in domestic market, meat consumption and its trends. As aforementioned in the preface, average annual meat consumption among urban and rural consumers slightly differs, so we conducted a survey separately at aimag centers and Ulaanbaatar City.

From the survey, it was observed that daily meat in-take for a household differs according to family size and location (either in rural or urban areas etc). 75-100% of average urban family with 4-6 members consume 0.3-1 kg meat daily, while 75% o families with more than 6 members consume 0,5-1 kg or more meat daily. Considering meat consumption structure, 42.2% of urban population and 31.9% of rural population consume beef showing that both beef and mutton take 62-79.0% of all meat consumption in the country.

Table 3

Percentage of meat consumption

Consumers	camel	horse	cattle	Sheep	goat
Ulaanbaatar consumers	1.1	13.3	42.2	37.8	5.6
Local consumers	0	23.6	31.9	30.6	13.9



Meat consumption of aimag center and soum residents is much higher than those of urban consumers; 63.6-69.7% consumes 0.5-1 kg meat daily spending on the family size while remaining 13.6-46.7% consumes more than 1 kg meat daily. This might be largely influenced by fact that aimag and soum consumers preserve large amount of meat for winter and some rural residents have their own animals for consumption. Both in rural and urban areas, salary an income level do not affect the type of meat that consumer buy.

Table 4

Reasons for using beef

Consumer location	High quality	Less fat	Good for health	Cheap	Easily available	Expensive but high quality	Accustomed to consume
Ulaanbaatar consumers	27.3	9.1	17.0	3.4	6.8	12.5	23.9
Rural consumers	45.9	1.6	26.2	11.5	8.2	6.6	21.3

Table 4 shows that key reasons for consuming beef is that consumers think it is of high quality and some consumers just accustomed to beef consumption for years. Throughout the survey, we asked respondents which kind of meat they would choose in case that all types are of same price, 48.7-54.8% preferred beef and 24.2-42.7% liked mutton. This clearly demonstrates that beef plays key role in main structure of meat consumption. As people pay more attention to food quality, using lean solid meat (10% of UB consumers) and having more income (38-44.0%), consumption for beef will likely increase furthermore.

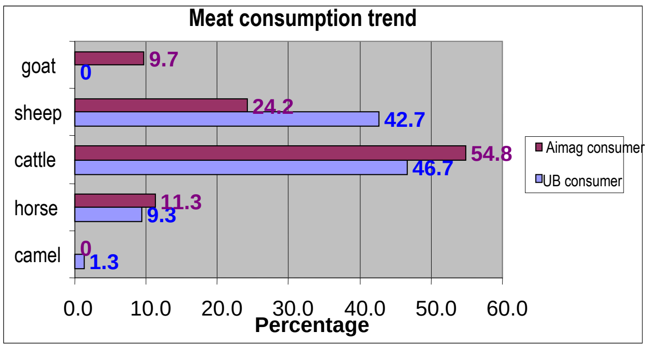


Table 5
Where do you buy meat?

Consumer location	Nearest food store	Large supermarkets	Large markets
Ulaanbaatar	8.0	18.0	74.0
Rural area	19.0	0.0	81.0

Table 6
Hygiene conditions

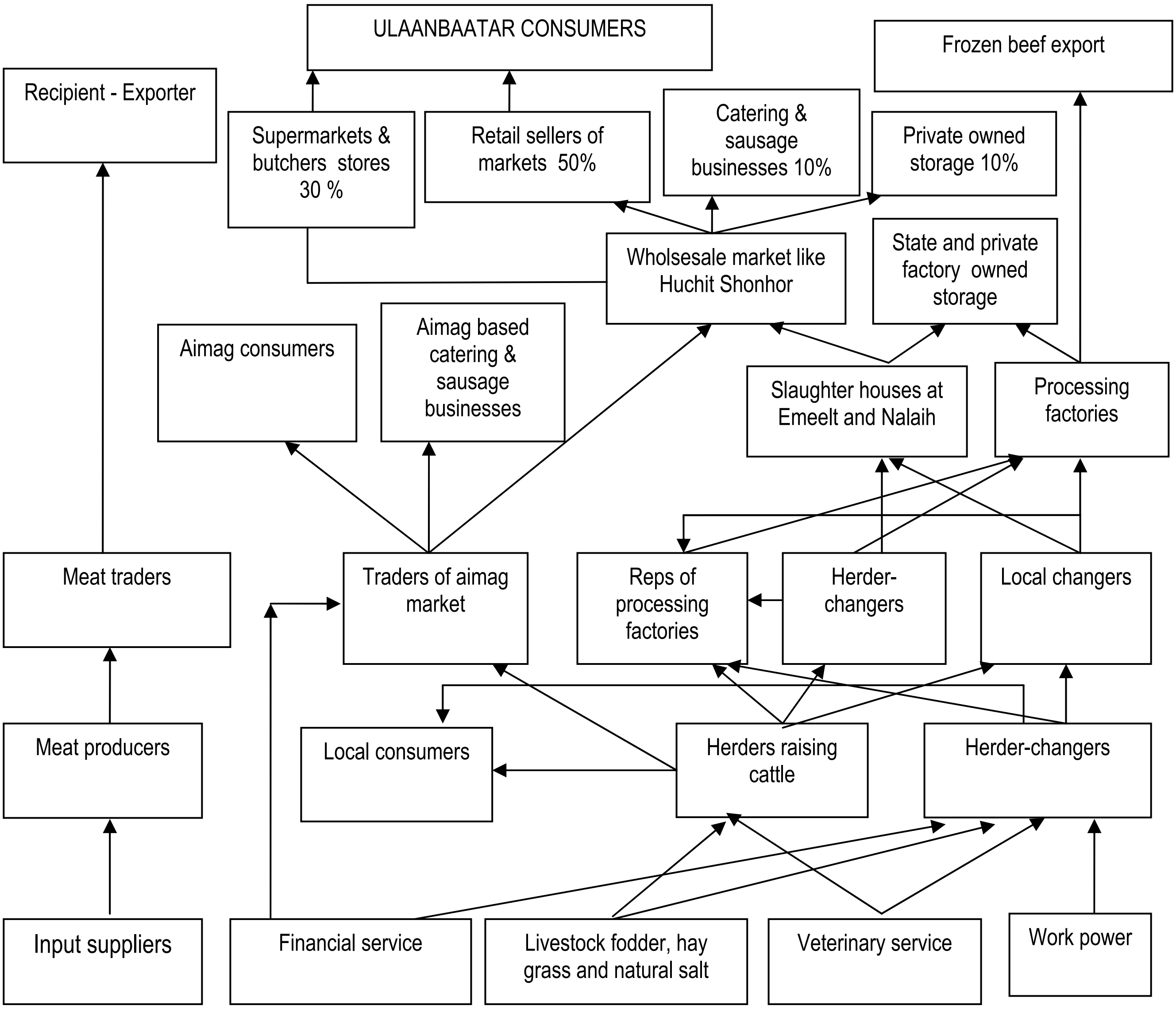
Consumer location	Good	Fair	Bad
Ulaanbaatar	52.9	37.3	9.8
Rural area	30.2	60.5	9.3

Majority of rural and urban consumers (74-81%) buy meat from food markets. 70% of all respondents are not satisfied with hygiene conditions; this shows that beef is sold to consumers with no any added value in its chain from producers to consumers. On the other hand, beef supply still can not provide entire domestic market demand, so there is a clear sign of constant growth of demand on market. Currently, meat sellers offer beef in a form of de-boned lean meat and body parts separated with bones. Investigation on what form consumers would like to buy, consumers have vested interest in de-boned meat but with a trend of further interest in sorted and separated beef.

Table 7
What form of meat would you like to buy more?

Consumer location	De-boned	With bones but separated	Sorted	Minced	Carcass	Other
Ulaanbaatar	41.3	22.2	20.6	1.6	12.7	1.6
Rural area	47.4	17.5	35.1	0.0	0.0	0.0

2.2. Beef sub-sector value chain map



2.3 Beef value chain stakeholders, their linkage

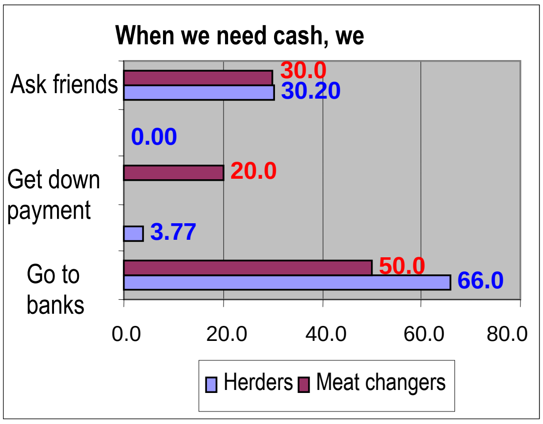
(i) Input suppliers: Through the study on inputs for beef production, we identified vet service, livestock fodder/natural salt and financial services as the main inputs. Aside from this, some herders that own large number of cattle or those herders that buy and sell cattle from other herders has input into their business. All herders receive vet service from soum based vet clinics; major service being vaccination, de-worming and control of parasites. As cattle are highly vulnerable to climate harshness in winter and spring i.e. die or loose weight, herders use fodder and natural salt, which is seldom sold in their respective areas as there is an absence of such specialized businesses. In Suhbaatar aimag, where there is good hay making potential, some businesses operate in hay making like selling grass to herders or barter hay grass with young cattle.

Table 8.
Key inputs in the beef production business

Veterinary service			Livestock fodder and hay grass			Natural salt		
Always	Sometimes	Never	Always	Sometimes	Never	Always	Sometimes	Never
60.0	32.0	8.0	42.2	40.0	17.8	36.73	42.86	20.4

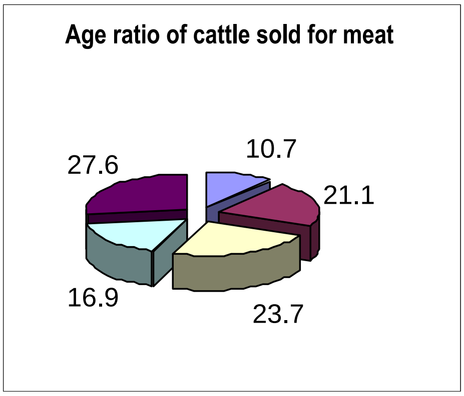
81.4% of the total payment for inputs is made is cash while remaining 18.4% transaction is done mainly on credit.

Where do you refer to when you need cash?



It was important for value chain study to identify use and type of financial transactions and inputs in-between herders-changers and representatives of meat processors. 66% of herders and 50% of changers refer to bank when they need cash. About 20% of changers use money they were paid by end users as down payment, while 30% of both herders and changers borrow from their friends. Such type of loan is taken before Lunar New Year and before the cashmere combing season.

(ii) Beef producers-herders. As per herders that supply market with beef, they sell out cattle to buyers not depending on how many cattle they have. Some herders who have large amount of cattle and who have financial capacity, often buy cattle from other herders to sell large amount of cattle to representatives of meat processors for per kg of body weight. At least 5-6 changer-herders exist in one soum covered in the study. On the other hand, herders also sell their cattle directly to meat processors. Herders that live close to aimag center, sell beef to meat changers of aimag market having slaughtered their cattle by themselves. 93.2% of herders sold cattle for commercial purpose, but they all stated they do not join with others; instead they do transaction alone or with family members. 83% of herders say that they sell their cattle themselves at the market. Though 60% of herders answered that they sell beef at the market themselves, but that does not mean herders sell beef over the counter, but it means selling directly to meat changers in the soum. Selling their livestock to those businesses has some positive sides like they pay in cash and herders save on marketing costs like transportation (21.5-37.8%).



Survey among herders that sell cattle, indicates 25.5% of them prefer selling cattle at the young age, while 74.5% likes to sell at the mature ox age. Reason for latter thought is that they could earn an extra income tough it takes some time until the cattle reaches mature ox age and gain sufficient weight. Also changers like to buy ox rather than young cattle as young cattle re-selling business is not so profitable because of the body weight. Further study on their past experiences of cattle sale, 55.5% sold their cattle as young cattle and 45% sold at the mature age of ox or cow. Timing of cattle selling shows a slight difference according to cattle age. Peak selling time of cattle sale is June-August when 37.5-82.9% of all age cattle is sold. As per another peak time of January-May, cattle is not directly slaughtered for meat selling, rather they are tend in the pasture to get more weight gained. Age of this category mainly consists of young cattle like heifer and yearling. Herders, sometimes tend to slaughter dry cows to get quick income. Throughout September to December, cows and oxen are mainly sold as this period coincides with time that many people preserve meat for their winter food.

Table 9
Monthly cattle sales percentage

Months	heifer	steer	cow	oxen
Jan-May	43.75	6.7	13.3	1.4
Jun-Aug	37.5	82.9	46.7	67.6
Sep-Dec	18.8	10.5	40	31

There are three main types of selling cattle including the following:

- Selling cattle valuing in accordance with overall number
- Selling cattle in accordance with live weight
- Slaughter and sell meat at wholesale price

It is not clear that what the reasons of using such way to value the cattle are. Most cattle sold during summer and fall is valued according to their live weight. Herders living near central markets do not use the initial two types, rather they prefer slaughter and sell meat valuing per kg.

Table 10
Average price of per cattle (MNT)

yearling	Young cattle/heifer/steer	Oxen	Cow
120000	171741	414130	214444

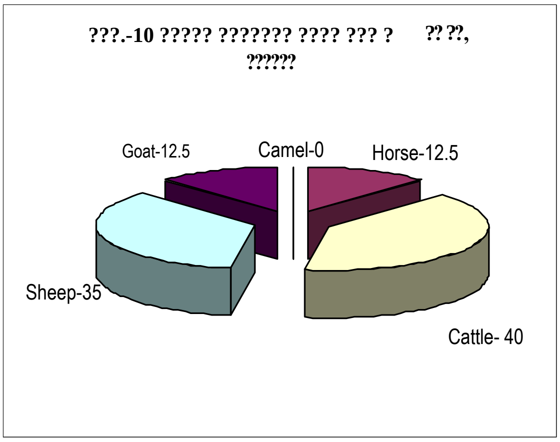
Table 11
Average price of fresh beef sold by herders

Beef	January-May	June-August	September-December
1781	1783	1527	1781

Local cattle price

Mongols usually do trading through negotiation, which is some kind of awkward way because the negotiation price does not match with real costs and live weight. Such negotiation is mainly done herder to herder or herder to changer basis. The price for cattle increases as the age is older exemplified that an ox costs 400- 500 000 MNT. Considering live weight, meat output, hide and other by products, such price is unrealistic, even it is impossible to pay such high price. A herder-changer of Arhangai aimag's Chuluut soum Sainnyambuu said "Sometimes we pay local prices through negotiation with herders for a cow, which makes us sometimes unviable".

(iii) Beef changers. People in this category often buy heifers and yearling from herders throughout the year. They have cash on hand or they borrow from a bank. They buy cattle between January to May and then sell to representatives of meat processors in autumn, August-September valuing with live weight earning 30-70 000 MNT profit from each cattle. They pay to herders in winter just before Lunar New Year to collect cattle in May. Until August, they hire herders to tend the cattle and add up weight. During the survey, it was observed that those changers do not focus solely on cattle; they also buy and sell other types of animals.



Though those changers do not only buy and sell beef, majority of them (75%) operates beef and mutton businesses. Key reason for this choice is that beef and mutton are highly demanded (52.5%) and it is easy to find the potential suppliers-herders. As beef is the highly demanded type on market, it is considered as the profitable business for the category of changers.

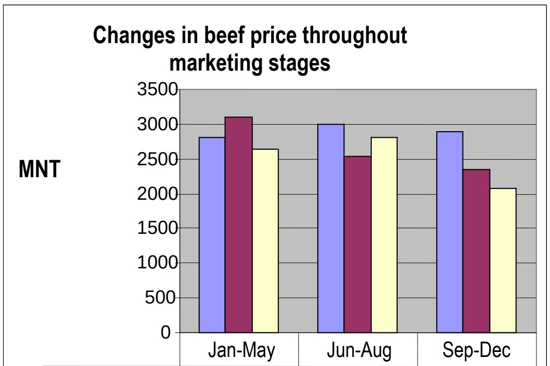
Table 12
Buying and selling price of changers

	Yearling	Young cattle	Ox	Cow
Price paid to herders	92777.8	156153.8	395833.3	214000.0
Price that changers sell on the market	125000.0	222777.8	462500.0	227142.9
Price differential	32222,2	66624	66666,7	13142

(iv) Agents of slaughter plants. Main meat processors includes Erdenet meat factory, Darhan meat factory, Mah Impex, Mah Market, Jast and others. The agents/representatives of these processors often travel to remote soums in August and September to buy cattle paying 750 MNT per kg of body weight. When they have certain number of cattle, they take to the plant on foot by slowly grazing while adding weight. As per these representatives/agents of processors, they directly buy from herders with no involvement of changers or intermediaries. Those agents get cash down payment form meat processors and receive premium incentives for cattle they procure for processors. Total amount of cattle to be procured by processors is surely dependent on availability and amount of bank loan funding disbursed for them.

(v) Slaughter houses. Slaughter plants are operated in Suhbaatar, Arhangai, Zavhan, Hovd aimags, Erdenet and Darhan cities but many of them are engaged in buying animals for storing for longer period, and sell at the reduced price in spring as part of Government's meat price control attempt. They are financed by government soft loan and in turn, they are required to sell meat to consumers at the price that government sets. Some large plants also procure cattle to sell beef to Russia. One of them, Arhangai Huns LLC is a newly established meat processor, started on September 2007. In response to our request to provide us details on total amount of meat professed since its inception, the company responded it is unable as it is their business secret. The company is the daughter company of UB based Taij Trade, and runs with a capacity of 150 large animals and 500 small ruminants slaughter per day running on seasonal terms between September to Mid November. The company runs 500 tonnes capacity refrigerated storage and procures animals from as far as Gobi-Altai, Bayanhongor, Uvurhangai and Huvsgul aimags. The company also sells its facility for Jast and Mah Impex for slaughter and storage. As there is a processor company running in the aimag, local herders are able to sell their animals directly to the company. According to company officers, they also have difficulty including financial resources and finding reliable suppliers.

(**v) Wholesale changers of aimag market**. There are about 10-15 changers working on aimag center market engaged in wholesale meat trading. Though they are called wholesale changers, there are cases that they do not sell to retailers at the same market; instead they transport meat to Huchit Shonhor market in Ulaanbaatar earning about 800 MNT from per kg of meat they sell. They spend about 60-70 MNT for transportation of every kg of meat plus they have additional costs for food, accommodation, transportation, market fee and vet certificate etc. In total, approximately 120 MNT cost for a kg of meat incur to sell at the market. They travel to UB 2-3 times a week in summer and sell 1-2 tonnes of meat and this figure increases in winter to 2 times a week and 3-3.5 tonnes of meat per trip. It was observed these changers do not always collaborate with each other, rather they prefer working independently.



	Jan-May	Jun-Aug	Sep-Dec
Food stores	2800	3000	2900
Supermarkets	3111.1	2533.3	2355.6
Meat markets	2633.2	2800	2076

(vi) Retail sellers of local markets: These sellers are engaged in both retail and wholesale business. Local food market in Arhangai aimag has 24 rented shelves for meat sellers; each shelf is rented by 2-3 sellers forming a group. Some of group members are responsible for buying meat at wholesale prices, while some are selling for retail prices over the counter. They earn profit from this business as there is a difference of 750-800 MNT between wholesale buying prices and retail selling prices. They also use some simple trick such as deducting 0.2% of the weight for bones included and deducting 1-2 kg from the by-products such as esophagus etc when they buy from suppliers.

The table and other data demonstrates that after all these steps from meat market to food store, every kg of meat is sold as much as 400-500 MNT per kg higher than previous stage depending on which month of the year it is been sold out. This amount varies between 400-500 MNT in January-May, 200-450 MNT between June-August per kg as there is less supply and 600-800 MNT per kg in September-December. Obviously, the price differential is not because there is a value added services such as processing, sorting and classification took place but it is just the price differential caused by demand. UB's Huchit Shonhor market operates its meat wholesale and retail shelves inside the same premises, but still the price differentials remains at 800-900 MNT per kg between wholesale and retail prices though they are almost on the same shelf.

(vii) Meat processing factories. There is 1-2 small scale sausage factories operating at aimag centers exemplified by Arhangai aimag, where there is a couple of sausage makers (Egneshgui Eh LLC and Anduud Ar LLC), a dried meat maker and a few processing plants. There are more than 20 large meat processing factories in Ulaanbaatar of which Hatansuih and MahImpex being the largest ones. Aside from meat processors, there is a wide spread catering service providers like HAAN Buuz, but they often tend to use mutton rather than beef.

III. Key opportunities and obstacles existing in the beef sub-sector

Classification	Obstacles/Opportunities
Technology/Product development	▪ As cattle herd is easily affected by natural disasters like dzud therefore lose weight, it is not possible to sell cattle in spring and early summer. This causes slight problem in market supply and event creates shortage.
	▪ Beef is bought directly from herder household and sold as is, with not tangible added value.
	▪ The cattle that is raised in Mongolia has smaller body size and weak growth rate, so it makes the herders unable to sell for better profit. There are cases that a yearling does not qualify for processors' requirements.
	▪ Herders do not know technology to raise young cattle for premium quality of beef.
	▪ No slaughter and processing plants run in rural areas.
Market	▪ Domestic market demand for beef is high and this will likely rise further.
	▪ Beef price fluctuates often, not easily available and beef price fluctuation affects prices of other type of meat.
	▪ Few potential buyers that can pay cash to herders for animals.
	▪ As there is weak link between processors and herders, processors can not buy sufficient amount of cattle.
	▪ Sometimes processors pay in advance, but they fail on getting cattle in turn later.
Input supply	▪ Due to pasture availability and decreasing forage, cattle herd can not get additional weight to be commercially viable.

	▪ Hard to find hay grass and fodder, no available raw material for fodder making.
Management/organization	▪ Herders can not sell cattle in an organized way to processors.
	▪ Livestock theft is common, especially cattle is rustled more, so some stakeholders get into problem by mistakenly buying rustled cattle.
Policy/regulation	▪ The government disburses loan free of interest to processors for procuring state reservation meat.
Infrastructure	▪ High marketing cost as there is weak road and communication system, absence of refrigerated transportation makes it hard to carry meat without weight or quality loss.
	▪ Inadequate number of refrigerated storage houses makes it impossible to store meat for longer period.
Financing	▪ As herders are always in short of cash, they sell cattle for cheap prices or sell on credit.
	▪ Those who are involved with cattle trading have no sufficient cash and assets, so they can not buy enough cattle to meet the growing demand.
	▪ Herders artificially raise prices, so traders sometimes face difficulty, even loss.
	▪ High interest rate of bank loan limits possibility of buying cattle for processing.

IV. Commercial solutions to beef sub-sector obstacles

Obstacles	*Commercial solutions*	*Solution and service providers*
As cattle herd is easily affected by natural disasters like dzud therefore lose weight, it is not possible to sell cattle in spring and early summer. This makes slight problem in market supply and event creates shortage.	1. Transfer technology to reduce weight loss of cattle and breed beef cattle intensively and assist to develop training/technical assistances to expand their business. Support model intensified farm for young beef cattle fattening	AHSRI, Local BDOs Professional Unions Agricultural extension centers
Beef is bought directly from herder household and sold as is, with not tangible added value.	2. Expand training/technical assistances for meat businesses on technology of value added beef through classification, dried meat "sirloin steak" production and support business of this type. Develop posters to promote increase in consumption of classified meat and support business on classified meat 3. Assist herders to supply high class restaurants and chains with luxury and high-cost parts like sirloin/fillet 4. Support stakeholders in sorting	BDOs Food Scientific Research Institute of Mongolia Technical University Business operators Agricultural extension centers

	internal organs of cattle (liver, kidney, eyes, brain etc) for medical and food purpose and assist them on selling for special markets	
The cattle that is raised in Mongolia has smaller body size and weak growth rate, so it makes the herders unable to sell for better profit. There are cases that a yearling does not qualify for processors' requirements	5. Give assistance to raising young cattle and yearling, feeding by providing training and advice. Increase sales of young cattle, reduce age of cattle for sale and support herders to improve efficiency of beef business	BDOs Professional unions Agricultural extension centers Government agency on agriculture
No slaughter and processing plants run in rural areas.	6. Support bigger inter- soum slaughterhouses and cooling workshops where there is enough resource of beef	Banks Projects and government agencies Business operators
Domestic market demand for beef is high and this will likely rise further.	7. Support business operations targeted on providing demand with better quality beef	Banks Business operators Government and NGOs
Beef price fluctuates often, not easily available and beef price fluctuation affects prices of other type of meat.	8. In order to make meat demand sustainable, feed young cattle earlier and market during spring time 9. Pay incentives from the government for young cattle meat sold in spring and early summer	Business operators BDOs Banks MoFA Government
Few potential buyers that can pay cash to herders for animals.	10. Attract herders that produce large amount of cattle for beef into loan guarantee program to support them providing working capital credit for cattle procurement, they will purchase and sell more cattle and affect beef supply and herders will increase their income	Banks Loan guarantee program
As there is weak link between processors and herders, processors can not buy sufficient amount of cattle.	11. Enhance inter-business linkages by organizing meetings between slaughter plants and herder groups (with sufficient cattle) & beef production coops for permanent contracts, negotiate purchase conditions and set incentives for standard quality and sufficient amount of beef supply	Local BDOs Government agencies Professional unions
Sometimes processors pay in advance, but they fail on getting cattle in turn later.	12. Provide herders and livestock traders with training on contracting	BDOs Law and consulting businesses
Due to pasture availability and decreasing forage, cattle herd can	13. By selling young cattle and accelerating herd rotation,	Agricultural extension centers Professional unions

not get additional weight to be commercially viable.	improve pasture resource use and promote this initiative through advertisement and training	Local BDOs
Hard to find hay grass and fodder, no available raw material for fodder making.	14. Support fodder making businesses that uses local resources and organize a campaign to promote fodder use	AHSRI Agricultural extension centers Local BDOs Fodder business operators
Herders can not sell cattle in an organized way to processors.	15. Support meat procurement coops, enable meat processors to contract with organized herder groups and organize business meetings	
Livestock theft is common, especially cattle is rustled more, so some stakeholders get into problem by mistakenly buying rustled cattle.	16. Provide all cattle with hidden and coded tags 17. Provide certificate of origin with hologram security	BDOs Agricultural extension centers Government agency on agriculture Police and registration offices
The government disburses loan free of interest to processors for procuring state reservation meat.	18. Improve linkage in between herders, meat processors and changers and use the existing possibilities effectively	Business operators Government and NGOs
High marketing cost as there is weak road and communication system, absence of refrigerated transportation makes it hard to carry meat without weight or quality loss.	19. Support and develop supporting market of transporting meat in refrigerated vehicles to central market	BDOs Business operators Government agencies
Inadequate number of refrigerated storage houses makes it impossible to store meat for longer period.	20. Add up meat storage amount by introducing ice-cooled storage technology and assist in making supply and demand sustainable	AoS, Institute of Geography Technology Transfer fund, of Mongolian Technical University Agricultural extension centers Business invention organizations
As herders are always in short of cash, they sell cattle for cheap prices or sell on credit.	21. Create possibility for herders to get loan using their cattle as collateral and meat processors pay down payment under the contractual terms	Banks Meat processors
Herders artificially raise prices, so traders sometimes face difficulty, even loss.	22. Train herders on identifying cattle live weight and support business service that facilitate herders to find easy-to-use measurement devices	BDOs
High interest rate of bank loan limits possibility of buying cattle for processing.	23. Get the beef traders involved with government's interest free loan funding	Government Business operators

Selection matrix of commercial solutions for beef sub-sector obstacles

Having identified obstacles in the beef sub-sector, we also identified 21 commercial solutions to obstacles through the focus group discussions and intensive survey. Out of solutions, we used selective indicator method to get the most impactfull and most important solutions. As the indicators, we used the following as the key pointers:

- Potential of increase in income of stakeholders after the solutions are implemented
- Potential of solutions to bring benefits to as many as people

Possibilities of income growth

High	*9;8;13;14*	*3;11;20;22*	*1;2;19*
Medium	*15;18;21*	*4;6;7;10;16;17;5*	
Low		*23*	
	Low	Medium	High

Number of beneficiaries of the solutions

V. Assessment of commercial solutions to beef sub-sector obstacles, assessment criteria

Solution 1

Solution description.
Transfer technology to reduce weight loss of cattle and breed beef cattle intensively and assist to develop training/technical assistances to expand their business. Support model intensified farm for young beef cattle fattening

Obstacles that require the solution.
As cattle herd is easily affected by natural disasters like dzud therefore lose weight, it is not possible to sell cattle in spring and early summer. This makes slight problem in market supply and event creates shortage.

Possible service providers for the solution's implementation:

- AHSRI
- Local BDOs
- Professional unions
- Agricultural extension centers

Other market info relevant to the solution:
Demand for beef increases in May-August. This also increases the price, but same time market supply diminishes.

Possible obstacles in solution's implementation:

- Hard to find livestock fodder, expensive and there is limited possibility in rural areas to produce fodder, consequently cost for fodder production increases and expected profit of such business shrinks
- Herders are unaware of knowledge and skills in feeding young cattle intensively, and they also lack business mindedness
- There is no any model business that herders could duplicate as well as there are limited number of trainers and experienced people

Sustainable impact:
Organize the training for soum based cattle herders and herder-changers on feedlot technology through the local consultants and BDOs allowing them to get certain percentage of income and work on cost-share basis

Criteria for evaluating the solution's outcomes:

- Creating the technology of feeding young cattle with additive feed and achieve in practice
- Number of herders who uses the technology to expand businesses, their sales income
- Number of demo, trainings and consulting & number of attendees

- Total income generated by BDOs from contracted technology consulting
- Number of business plans that received assistance

Solution 2

Solution description.

Expand training/technical assistances for meat businesses on technology of value added beef through classification, dried meat "sirloin steak" production and support business of this type. Develop posters to promote increase in consumption of classified meat and support business on identifying meat

Obstacles that require the solution.

Beef is bought directly from herder household and sold as is, with not tangible added value.

Possible service providers for the solution's implementation:

- BDOs,
- Food Science Research Institute, Mongolian Technical University
- Business operators
- Agricultural extension centers

Other market info relevant to the solution:

There is a growing trend of increasing demand for sorted and de-boned meat.

Possible obstacles in solution's implementation:

- No business operators educated, trained and skilled in technology of beef sorting and producing dried beef and fillet.
- Experienced consultants on these issues are scarce in the country
- No information is available on small scale meat processing equipment
- Though business operators intend to run such businesses, but they lack funding and collateral for bank loan financing

Sustainable impact:

Local consultants could be mentored by the highly skilled national and international consultants and later on provide consulting to interested business earning income from fee; at least break even.

Criteria for evaluating the solution's outcomes:

- Number of local consultants that learned from highly skilled consultants by apprenticeship
- Number of consulting provided by local consultants, amount of their income
- Growth of business operators running such businesses, their income growth

Solution 3

Solution description.

Assist herders to supply high class restaurants and chains with luxury and high-cost parts like sirloin/fillet and make links to buyers

Obstacles that require the solution.

Beef is bought directly from herder household and sold as is, with not tangible added value.

Possible service providers for the solution's implementation:

- BDOs,
- Food Science Research Institute, Mongolian Technical University
- Business operators
- Agricultural extension center

Other market info relevant to the solution:

There are an adequate amount of high class restaurants that serve with high quality beef (fillet), however they buy their main dish, fillet, from food markets. Available to them is only adult beef fillet, which has lower moisture affecting meal quality. For the fillet dish, young cattle meat is considered more sufficient.

Possible obstacles in solution's implementation:

- Herders, meat sellers and processors do not know much about the requirements of preparing and sorting fillet
- There is no direct link between meat producers and restaurants

Sustainable impact:

As there will be mutually beneficial transaction between meat producers and restaurant owners, this type of business will likely expand. Meat preparation technology could be taught by restaurant specialists, so that the business operators could improve the quality.

Criteria for evaluating the solution's outcomes:

- Number of businesses linked by the program and the total sales amount in-between those businesses

Solution 11

Solution description.

Enhance inter-business linkages by organizing meetings between slaughter plants and herder groups (with sufficient cattle) & beef production coops for permanent contracts, negotiate purchase conditions and set incentives for standard quality and sufficient amount of beef supply

Obstacles that require the solution.

As there is weak link between processors and herders, processors can not buy sufficient amount of cattle.

Possible service providers for the solution's implementation:

- Local BDOs
- Government agencies
- Professional unions

Other market info relevant to the solution:

Slaughter plants working at aimag level appoint their agents to soums paying them premium from total amount of meat they procure, but they have cases that they get in trouble as they make wrong choices on selecting their agents

Possible obstacles in solution's implementation:

- No information is available on how to get connected to meat processors and what conditions apply to provide them
- Herders fail in supplying required and contracted amount of animals due to weather-climatic conditions
- Processors do not pay to herders on time

Sustainable impact: By improving information exchange, buying and selling in contractual terms and paying additional prices for the amount of meat that meets requirements would impact on the sustainability of mutually beneficial relations between suppliers and buyers.

Criteria for evaluating the solution's outcomes:

- Number of meetings organized and number of total attendees in meetings
- Number of total contracts made between sellers and buyers and total contract amount
- Number of herder groups and coops that sold animals at additional prices (with additional incentives) and total sales income

Solution 19

Solution description.

Support and develop supporting market of transporting meat in refrigerated vehicles to central market

Obstacles that require the solution.

High marketing cost as there is weak road and communication system, absence of refrigerated transportation makes it hard to carry meat without weight or quality loss.

Possible service providers for the solution's implementation:

- BDOs
- Business operators
- Government agencies

Other market info relevant to the solution:

Wholesale meat sellers transport meat on open truck, which causes weight and quality loss, these negative impacts on their business makes them to earn less than they expect.

Possible obstacles in solution's implementation:

- Transport business operators have limited financial possibility of investing into the refrigerated trucks

- Lack of cooperation among the meat business operators

Sustainable impact:

Transport business operators will be able to operate viable, and it is important to understand the advantages of this business, so that they would have more and more clients.

Criteria for evaluating the solution's outcomes:

- Number of transport service providers, total sales income
- Number of businesses working in cooperation

Solution 20

Solution description.

Add up meat storage amount by introducing ice-cooled storage technology and assist in making supply and demand sustainable

Obstacles that require the solution. Inadequate number of refrigerated storage houses makes it impossible to store meat for longer period

Possible service providers for the solution's implementation:

- AoS, Institute of Geography
- Technology Transfer Fund, Mongolian Technical University
- Agricultural extension centers
- Innovation business operators

Other market info relevant to the solution:

About 40% of Mongolia's territory belongs to perma-frost region. Institute of Geography of Mongolian Academy of Sciences developed the technology of building ice cooled storage in the perma-frost areas.

Possible obstacles in solution's implementation:

- Business operators are unaware of ice cooled storage technology
- Business operators are unaware of ice cooled storage maintenance and functions
- Limited number of business operators that would buy services of the ice cooled storage

Sustainable impact:

Storage business operators will be able to operate viable earning more than they spend.

Criteria for evaluating the solution's outcomes:

- Number of businesses received consulting on ice cooled storage and number of local trainer prepared for this purpose
- Number and capacity of ice cooled storage functioning, amount of meat preserved
- Impact on meat market price

Solution 22

Solution description.

Train herders on identifying cattle live weight and support business services that facilitate herders to find easy-to-use measurement devices

Obstacles that require the solution.

Herders artificially and unreasonably raise prices, so traders sometimes face difficulty, even loss

Possible service providers for the solution's implementation:

- Local BDOs

Other market info relevant to the solution:

Possible obstacles in solution's implementation:

- No trained personnel on this field
- No information is available on this field and no info on required devices/equipments, no linkage between the stakeholders

Sustainable impact:

Measurement device suppliers are able to train herders and meat changers on how to use the device. Final selling price would include training on device maintenance and functions.

Criteria for evaluating the solution's outcomes:

- Number of total measurement devices sold, growth in sales income

VI. Program involvement

Solutions	Potential program involvement	Expected results
Support beef producers to feed young cattle over the winter so that they start beef marketing earlier at the appropriate time, add cattle weight through feedlots, facilitate beef marketing earlier in spring time, provide cattle breeders with training and consulting, organize demo trainings and support businesses that aim at providing market with meat early in spring, assist in developing model business plan	Support the initiatives on developing standards and norms of young cattle additive feed and feeding regime Support ideas of developing a model business plan on young cattle raising for meat	Possibility for other businesses will be created following the model business of feeding young cattle with additive feed Increased percentage of high quality beef from young cattle in entire beef production sector Positive impact on the rangeland carrying capacity
Provide and expand training and consulting services for meat sellers and producers on meat classification, dried meat production and sirloin/short lion/fillet production and create possibility of adding value in entire beef production business	Invite consultants, organize experience sharing trips, provide with info on available equipment Get business operators involved with loan guarantee program	High influence on entire meat business by skilled consultants and demo businesses Improved competitiveness of the sector with increased possibility of adding value on beef New business types emerged and developed.
Assist herders to supply high class restaurants and chains with luxury and high-cost parts like sirloin/top lion/fillet	Support the business operators in connecting with each other, assist in contracting, provide training and link with potential market	Expanded beef market through improved inter business link and increased value of beef on the market
Enhance inter-business linkages by organizing meetings among slaughter plants and herder groups (with sufficient quantity of cattle) & beef production coops for long-term contracts, negotiate purchase conditions and set incentives for standard quality and sufficient amount of beef supply	Assist in organizing meeting of interested stakeholders, provide training in contracting, support business operators to improve their business linkage	Improved inter business collaboration and increased beef supply
Assist and develop supporting market of transporting meat in refrigerated vehicles to central market	Support refrigerated transport service providers with loan guarantee program, assist in organizing the meeting of transporters and meat business operators	Increased supply of high quality meat to be delivered to central market Expanded businesses on supporting sectors of beef business Increased profit of business operators.
Add up meat storage capacity by introducing ice-cooled storehouse technology and assist in making supply and demand sustainable	Help for activities of technology transfer, get such businesses involved with loan or grants	Increased meat storage amount Sustainable supply and demand

Train herders on identifying cattle live weight and support business service that facilitate herders to find easy-to-use measurement devices	Provide local BDOs with info on device suppliers, training local trainers, help BDOs to get connected with device suppliers	Support on business trust on fair beef business Increased income of the sector's stakeholders.

VII. Detailed implementation plan

#	Activities	Time	Responsible/ participant organizations	Indicators
1	Support and finance technology development project on feeding young cattle with additive feed for the winter	January-December 2008	AHSRI, Beef cattle project RASP	➢ Development of demo version of feeding technology and its business plan ➢ Number of business operators using the technology, number of expanded businesses, their sales income ➢ Number of demo, training & consulting and number of attendees ➢ Income that BDOs earned from the contracted consulting service ➢ Number of business plans received assistance
2	Support and finance the initiative to create demo business of young cattle beef production	January-December 2008	AHSRI, Beef cattle project RASP	
3	Support development of young cattle feeding technology an business plan, Support training of trainers	January-December 2008	AHSRI, Beef cattle project RASP	
4	Local trainers provide their paid services to interested business operators	2008-2009	Local BDOs RASP	
5	Support training of local trainers by highly qualified national and international trainers on beef sorting, calculating values of sorted meat beef, technology on jerky or other similar products and dry sausage technology	2008-2009	RASP support Local BDOs Meat processors University of Science and technology	➢ Number of local consultants that learned from highly qualified consultants through apprenticeship ➢ Number of consulting services by the local consultants, total income earned ➢ Growth in number and income of such business operators
6	Provide technical assistance to those business operators that produce dried meat, provide with info on equipment	2008-2009	RASP support Local BDOs Business operators	
7	Support organization of experience sharing trips in the dried meat production	2008-2009	RASP support Local BDOs Business operators	
8	Support new and existing businesses on meat	2008-2009	RASP support Local BDOs	

	processing		Business operators	
9	Make links between beef producers and high class restaurants and organize relevant meetings	2008-2009	RASP support Local BDOs Business operators	➢ Number of businesses that was linked to partners, total sales amount in between the linked businesses
10	Enhance inter-business linkages by organizing meetings between slaughter plants and herder groups (with sufficient cattle) & beef production coops for permanent contracts, negotiate purchase conditions and set incentives for standard quality and sufficient amount of beef supply	2008-2009	RASP support Local BDOs Business operators Meat processors	➢ Number of organized meetings and total number of attendees. ➢ Number of all contracts ad total contract amount ➢ Number of herder groups and coops that made incentive driven trading, their total income
11	Provide training on contracting for herders, changers and other interested bodies	2008-2009	RASP support Local BDOs Business operators	
12	Organize meeting of transport service providers and meat business operators	2008-2009	RASP support Local BDOs Business operators Meat processors	➢ Number of service providers, ➢ Sales income ➢ Number of businesses cooperating
13	Support refrigerated transport business operators, develop business plan and assist in finding a refrigerated vehicles	2008-2009	RASP support Local BDOs Business operators	
14	Link the interested business operators of Arhangai and Zavhan aimags with ice cooled storage technology holders, support them in making contracts	2008-2009	RASP support Local BDOs Business operators Institute of geography	➢ Number of businesses that received ice cooled storage consulting, number of local trainers prepared ➢ Number of total store houses that is functioning, their capacity and amount of meat preserved ➢ Impact in meat price
15	Train local trainers on ice cooled storage technology and maintenance, help local BDOs to build their capacity	2008-2009	RASP support Local BDOs	
16	Organize training of local trainers on identifying live weight of cattle and prepare local consultants	2008-2009	RASP support Local BDOs	➢ Number of total devices sold, growth in sales income
17	Provide info on available	2008-2009	RASP support	

	measurement devices for beef body weight , help in communicating with the suppliers		Local BDOs	
18	Sell the device to local BDOs, herders and changers, provide required training	2008-2009	Local BDOs	

Resource for reference:

1. Statistics Bulletin of Mongolia, 2000-2006.

ATTACHMENTS
Attachment 1:
Herder or producer

Questionnaire form on beef sub-sector/value chain

The purpose of this questionnaire is to collect data regarding meat market general trends, current situation and supply/demand as these are the required information for beef sector development. This study is carried out by Rural Agri Business Support Program. We will use the info for the general mapping of the meat sector and we will keep your info confidential. We believe that you will give us clear and candid answers and hope that you will contribute to development of the country.

i. Date: ....
ii. Name: ....
iii. Aimag ....Soum ....
iv Age .... Sex......................
v. Livestock number .... of which .... camel ...... horse .... cattle........ sheep ..... goat
vi. Family size .... of whom a school age children ....
vii. How long have you been herding livestock?

 1-5 years 5-10 years 10 years or more

A. Basic data

1. Have you sold any cattle from your herd for last one year period? (including those slaughtered and sold as meat)
    Yes No
2. If yes, what age of cattle did you sell?
    Yearling-
    Heifer-
    Young cattle (steer)-
    Cow-
    Ox-
3. Please state what as your purpose to sell the cattle?
    Meat and animal sales
    To have breeding animal
    Bartering with other animals
    Other
4. In your family, who makes decision on selling the livestock?
    Husband
    Wife
    Both
    Others /children, relatives in law, etc/

B. Meat marketing

1. For last one year period, which months did you sell the livestock? (Please give detailed info in the table)

Months	Yearling	Young cattle	Cow	Ox
January-may				
June-August				
September-December				

2. Which way do you sell cattle in groups with other herders or just yourself?
    Just by the family
    Herder groups and coop

□ Both myself and in groups

3. Who did you sell your livestock to? Please give details of each animal sold?

	Number of sold animals	Percentage	How long have been supplying this buyer?
To final consumers			
Soum based meat changers			
Aimag based meat changers			
Agents of processing factories			
Directly to food store			
Directly to cafes and restaurants			
Other			

Note: If possible give the name of the meat processing factory...
....

4. Are there any reasons that you specifically sell to this particular buyer?
   - □ They pay more
   - □ They buy more animals and adequate amount of meat
   - □ They pay in cash
   - □ It saves time
   - □ No bureaucracy and extra work
   - □ We have good relations with each other
   - □ They help us in many ways
   - □ We have a contract
   - □ Other
5. What was the selling price for beef and cattle? (price for cattle, price for meat per kg)
   - □ Each yearling .... young cattle............ ox .... cow.......
   - □............ MNT for per kg of live weight
   - □ Jan-May........., Jun-Aug........, Sep-Dec....... MNT per kg of fresh meat
6. For last one year period, did you sell other animals as an intermediary in this business?
   1. Yes 2. No
7. Have you calculated how much you earned from selling your and others (as an intermediary) cattle?
   - □ Much more than the previous year
   - □ Same as the previous year
   - □ Less than the previous year

C. Business obstacles and commercial solutions

1. Which age do you think would be most profitable for cattle selling?
   - □ Young age
   - □ Ox
2. When you sell your cattle at the age that you consider the most profitable, do you encounter any difficulties? Please refer to your answer for the question 1.
   - □ Not so good profit as the weight is low
   - □ Not so good profit as this requires long time of working
   - □ Hay grass and fodder is not available
   - □ Trades like to buy
   - □ Traders do not like to buy
3. Please stat three most important obstacles that you encounter in adding weight of cattle before selling?

А.

Б.

В.

4. What do you think that you should to overcome this difficulty?

А.

Б.

В.

5. When you sell cattle or beef, do you work with herders and business operators?

 Yes No

6. If yes, what is the purpose and form of your cooperation?

 We organize long distance pasture grazing to get the livestock to the bigger markets

 Sell some cattle at the wholesale price

 Help others that have no work force

7. Do you buy any goods and services to add the quality of cattle and increase amount of meat to be sold? (Please tick√)

Type of service	Always received	Sometimes received	Not at all	Where do you buy from?
Veterinary service				
Hay grass and fodder				
Natural salt				
Breeding bull				
Down payment for beef supply				
Training and consulting on beef cattle raising and feeding				
Local for buying cattle				

8. How do you receive the payment for the previous products and services?

 Cash

 On credit

 Sometimes we just give incentives to some others

9. Do you currently use any monetary recourse for buying cattle or beef raising?

 Yes No

10. If yes, can you tell us how much you received as down payment

Where do you get money?	Amount (in thousands)

11. When you need cash, where do you refer to?

 Banks

 Non bank financial institutions

 Savings and credit unions

Friends

Thanks for filling all questionnaire.

Attachment 2
Meat changers and sellers

Meat sub-sector survey questionnaire

The purpose of this questionnaire is to collect data regarding meat market general trends, current situation and supply/demand as these are the required information for beef sector development. This study is carried out by Rural Agri Business Support Program. We will use the info for the general mapping of the meat sector and we will keep your info confidential. We believe that you will give us clear and candid answers and hope that you will contribute to development of the country.

1. Date: ....
2. Name: ....
3. Aimag ....Soum..
4. Age .... Sex.....................

How long have you been involved with meat trading?

□ 1-5 years □ 5-10 years □ 10 years or more

What type of meat business are you engaged in?

- □ Buy from herders and sell in the aimag center
- □ Buy from herders and sell to UB meat processors
- □ Buy from herders and sell to Ulaanbaatar changers
- □ Buy from aimag changer and sell to Ulaanbaatar changers
- □ Slaughter my own livestock and sell on the aimag and soum market

A. Primary data

5. What is the highly demanded best selling meat?
   - □ Camel
   - □ Hose
   - □ Cattle
   - □ Sheep
   - □ Goat
6. Are you engaged in beef business?
   - □ Yes □ No
7. If yes, why did you choose beef?
   - □ Sells well
   - □ Easily available from suppliers
   - □ Easy to store and transport
   - □ Price is reasonable
   - □ Easy for me to run just one type of business
8. If no, why do you run other businesses than beef?
   - □ Beef price is high
   - □ Not easily available from initial suppliers
   - □ Does not sell well, it takes time
9. If yes, what is the perfect age of cattle that the meat sells well?
   - □ Yearling
   - □ Heifer
   - □ Co
   - □ Ox
10. How is the availability and supply of beef?
    - □ Generally scarce
    - □ Fine

☐ Enough

11. Please state three main difficulties that you encounter in buying and selling beef.
    a)

    b)

    c)
12. What are the most important activities to solve the difficulties? Please state three most important activities.
    a)

    b)

    c)
13. As a meat trader, what do you think the best way to cooperate with herders?
    a)

    b)

    c)

B. Meat marketing

8. How much do you pay for beef or cattle to herders?
   - ☐ Per head of yearling......... young cattle .... cow....... ox......... MNT
   - ☐ Per kg of live weight......... MNT
   - ☐ Per kg of fresh solid meat during Jan-may.......... June-Aug.......... Sep-Dec........ MNT
9. What is the status of herders that mostly supply you with beef?
   - ☐ Household with 200-500 livestock
   - ☐ Household with 501-1000 livestock
   - ☐ Household with more than 1000 livestock
   - ☐ Organized herder group, close herder neighbors

10. Do you pay cash or other items in advance to buy beef?

    ☐ Yes ☐ No
11. If yes, which herders so you give to?
    - ☐ Herders with adequate number of livestock
    - ☐ To limited number of reliable herders
    - ☐ Everyone wanted to get advance payment
    - ☐ Only to changer-herders that sell cattle

12. Where do you mainly sell your meat?

	Percentage in your sales	How long how you been selling with this way?
Directly to consumers on market		
Aimag based meat changers		
Representatives of meat processors		
Directly to food markets and stores		
Directly to cafes and restaurants		
Other ways		

Note: If possible please provide with use the name of the meat processor...

13. Are there any reasons to sell to any of these clients directly?
    - □ They pay higher
    - □ They buy in bulk amount (both cattle and beef)
    - □ They pay in cash
    - □ It saves time
    - □ No bureaucracy and difficulty
    - □ We have good relations with each other
    - □ They help us in any way
    - □ We have contracts
    - □ Other
14. What was the price that sold cattle and beef last time? (Please state price for both cattle and beef per kg)
    - □ Per head of yearling.......... young cattle............ ox....... cow....... MNT
    - □ Per kg of live weight for .... MNT
    - □ Per kg of fresh solid meat during Jan-May......... June-Aug........ Sep-Dec....... MNT
15. If you are engaged in beef trading, what is the consumer trend?
    - □ Number of clients is increasing constantly
    - □ No change
    - □ Number of clients is decreasing constantly

C. Business obstacles and commercial solutions

12. What are the obstacles that you encounter to increase the amount of cattle or beef for sale? Please state three most important obstacles?

    A.

    B.

    C.

13. What are the most important activities to overcome these obstacles?

    A.

    B.

    C.
14. Do you cooperate with other businesses when you are engaged in trading of beef/cattle?

    □ Yes □ No
15. If yes, for what purpose and how?
    - □ To obtain larger market share together
    - □ To control the market price
    - □ To mitigate the cost
    - □ To get other small changers work for us

16. Currently, do you have any outside financial resources to procure cattle/beef?

    □ Yes □ No
17. If yes, where did you get funding and how much?

Resource	Amount, (in thousands)

18. When you need money to procure beef/cattle, where do you usually refer for funding?

- Banks
- Meat processors for down payment
- Ulaanbaatar changers
- Non bank financial institutions
- Credit and savings cooperatives
- Friend

Thank you for your valuable input.

Attachment 3
Questionnaire form for Ulaanbaatar city and aimag center consumers

The purpose of this questionnaire is to collect data regarding meat market general trends, current situation and supply/demand as these are the required information for beef sector development. This study is carried out by Rural Agri-Business Support Program. We will use the info for general mapping of the meat sector and we will keep your info confidential. We believe that you will give us clear and candid answers and hope that you will contribute to development of the country.

Note: Please tick the appropriate answer or write the full response on the space provided!

1. Your family size
☐ up to 4 ☐ 4-6 ☐ more than 6

2. How much meat does your family use daily?
☐ 0.3-0.5 kg ☐ more than 1 kg
☐ 0.5-1.0 kg ☐ No meat at all

3. What sort of meat do you consume more?
☐ Camel ☐ Horse ☐ Cattle ☐ Sheep ☐ Goat

4. Why do you consume that sort of meat more?
☐ High quality ☐ Less fat and oil ☐Good for health, ☐Cheap ☐ Easily available ☐ Expensive but of premium quality ☐ Accustomed to consume it ☐ Others

5. Where do you usually buy meat?
☐ Nearest food store ☐ Large supermarkets ☐Large meat markets

6. What price do you pay for a kg of meat throughout the year?
☐ Small food store- Jan-May........ Jun-Aug .... Sep-Dec.......... MNT

☐ Large supermarket - Jan-May........ Jun-Aug .... Sep-Dec.......... MNT

☐ Large meat market- Jan-May........ Jun-Aug .... Sep-Dec.......... MNT

7. Do you like the quality and hygiene of meat that you buy currently?
☐ Fairly good ☐ Fair☐ Fairly bad

8. If the price for all sorts of meat sold in the stores and markets are the same, which kind of meat would you buy?
☐ Camel, ☐ Horse, ☐ Cattle, ☐ Sheep, ☐ Goat

9. If you have the following choices, which one would you buy?
☐ De boned solid meat, ☐ Separated ☐ Sorted ☐ Minced ☐ Carcass
☐ Other ………… (please specify)

10. Which sort of meat do you think will be highly demanded in the future?
☐ Camel, ☐ Horse, ☐ Cattle, ☐ Sheep, ☐ Goat

11. What is the reason you think so?

☐ Because of quality ☐ Because of cheap price ☐ Because people will have more solvency, ☐ Will be easily available ☐ Other reasons

12. In the future, Your and your family income will
☐ Increase ☐ Not change ☐ Decrease.

13. What is your monthly household income?
☐ up to 150 000 ☐ 151-250 000 ☐ 251-350 000
☐ 351-550 000 ☐ 551-700 000 ☐ more than 701 000

14. Which district do you live?
☐ Bayangol ☐ Bayanzurh ☐ Han-uul
☐ Songino-Hairhan ☐ Suhbaatar ☐ Chingeltei
☐ Aimag center

15. Your age and sex?
☐ up to 25 ☐ 26-35 ☐ 36-45 ☐ older than 46

☐ Male ☐ Female

Attachment 4
Sample project on beef value chain study
Content:

1. **Introduction**
2. **Survey goal**
3. **Expected outcomes**
4. **Survey scope**
5. **Survey methodology**
6. **Survey team**
7. **Budget**
8. **Work plan**
9. **Appendices**

Introduction: The average for last 5 years demonstrates that Mongolia produces 420.5 thousand tonnes of meat annually, of which 23-24% being beef only. Though there is a growing trend of livestock quantity and meat production, meat market price was doubled for this period showing that domestic market demand for such product is relatively higher. At the same time, production and supply of beef is being not sufficient to meet the growing demand. Therefore, we decided to conduct a beef value chain survey to identify program involvement, which will make considerable contribution to local economic development through effective implementation.

Survey goal:
Carrying analyses on beef sub-sector value chain, which has key role in rural economic development and develop business services to improve the competitiveness of the sector.

Expected outcomes
Based on the sub-sector survey outcomes, we will develop the work plan for the program involvement, which will include the following:

Content
Acronyms
Executive summary
Introduction
    1.1 Mongolian meat industry, its trends
    1.2 Survey goal & methodology
Peculiarities of beef sub-sector
    2.1 Beef end users
    2.2 Beef sub-sector mapping
    2.3 Beef value chain key stakeholders, linkage
Key opportunities and obstacles of beef sub-sector/value chain
Commercial solutions for beef sub-sector obstacles
Assessment of commercial solutions for obstacles of beef sub-sector
Program involvement
Detailed implementation plan
Resources
Attachments

Survey scope:

Beef value chain study will be carried out in Arhangai and Suhbaatar aimags, places with highest beef production and relatively better linkage to market, for four soums including the aimag centers and Ulaanbaatar city. The soums will be selected under the criteria of cattle quantity. The soums include:

- Undur-Ulaan, Ih Tamir and Chuluut soums of Arhangai aimag
- Tumentsogt, Munhhaan an Erdenetsagaan soums of Suhbaatar aimag
- Wholesale and retail meat sellers of above aimags
- Heads and managers of Arhangai and Suhbaatar aimag meat processing factories
- Wholesale and retail meat sellers of UB's Huchit Shonhor, Harhorin and Mercury markets, Minuu Delguur, Mah Market and some other sausage factories representatives
- Consumers of UB and selected aimags

Survey methodology

Phase 1: Selection of sub-sector/value chain

Based on the criteria of availability of secondary data, contribution to local economy, potential of income growth for participating businesses and adequate number of stakeholders, we selected the beef sub-sector.

Phase 2: Sub-sector/value chain study

At this stage, we collect the quantative data, pres review, and secondary data regarding the selected-sub-sector. Data may include previously carried studies, agricultural branch survey, action programs of aimag and soum governments, short and long term programs on sector's development and customs statistics for review. All the data collected should be certified and has to have reference to the source.

As a second round of the data collection, we conduct interviews and debates with key stakeholders of the sector (including decision makers who are well equipped with sector's information) and questionnaire survey in order to secure the authenticity of some primary data. Through this round, we identify all stakeholders in the sub-sectors, vertical and horizontal relevance/linkage in between the stakeholders, their collaboration (what they sell and buy), the level of linkage and the market share of each stakeholder in figures and percentages followed up by the mapping of sub-sector/ value chain.

Key stakeholders are:

- Traders (intermediaries in beef procurement, all level changers (aimag, soum and UB), procurement coops, wholesale and retail traders
- Processors (meat processing factory, sausage makers, canned meat producers, their managers and production directors)
- Buyers (supermarket chains, schools, hospitals, hotels, military units, entities that store state preserve meat)
- Business development service providers, NGOs, extension centers, training centers, and independent consultants/service providers
- High ranking government officers and managers
- Academic universities, agricultural scientific research institutes, researchers.
- Input suppliers (livestock fodder, veterinary service, seeds, fertilizers, equipment suppliers) and input producers and distributors
- Producers (key producers, herders, herder groups, representatives of herders with different number of animals as the livestock number is an important factor)
- Consumers

Following up the primary data gathering, we conduct interview with key stakeholders of sub-sector organizing each interview group with 5-6 interviewees. For any additional comments and clarifications, we carry out additional questionnaire.

Method	#	Data to gather	Other
Gathering primary data	1	Data on meat sector, cattle quantity growth and fall. Policy on meat production development, action plans of local and aimag governments, other survey/research	Government policy and recommendations & study/survey documents of other donors
Questionnaire from the meat producers	71	Questionnaire will be conducted from 5 herders with 200-501 livestock, 5 herders with 501-1000 livestock and 1-2 herders with over 1001 livestock in each soum	Suhbaatar- 11-12 from each soum (3 soums) totaling 31-36 herders Arhangai- 11-12 from each soum (3 soums) totaling 31-36 herders
Questionnaire from the meat sellers	28	Changers at soum and aimag level engaged in meat trading, procures meat for processors and serve as intermediary, wholesale and retail traders	3 changers, 3 procurement agents and 3 traders from each soum (3 soums in two aimags each) and other 5 people in the aimag center.
Focus group interview	10	A focus group survey with representatives of the above three groups will be organized at each soum. Second focus group will be on soum changers and meat sellers followed up by the last focus group survey with changers in the aimag center. All inputs of the focus group survey will be properly recorded and will be sent to UB office.	A total of 5 focus group discussions in each aimag (3 soums in two aimags) will be organized. In organizing the focus group interview, we will use the sample questions for the focus group survey and will be carried out in compliance with the plan attached to the Attachment 1 of this report.
Informal interview with other stakeholder	3	Just for general information, we will conduct an interview with Chairman of local Agricultural Department, managers of key meat processors. Another meeting will be with Tsairt zinc mine in Suhbaatar aimag to identify its demand for meat.	Throughout the interview with other stakeholders, we will aim at identifying obstacles in developing processing industry in value chain.
Questionnaire from the consumers	70	A total of 70 consumers (30 in UB, 20 in each aimag center) will be surveyed. Consumer survey is done without previous set up or choice of consumers.	This will be aimed at determining consumer trends.

The interviews will aim at identifying the obstacles/opportunities existing in sub- sector. In conducting interviews and focus group discussions, we will use the attached “Hand outs for focus group discussion”, Attachment 1, and “Sample questions for focus group survey”, Attachment 2. All the inputs to the focus group survey will be recorded for verification of data and facts. In identifying the obstacles/opportunities, the following issues will be focuses and their related answers will be sought.

- Technology/Product development
- Market
- Input supply
- Management/organization
- Policy regulation
- Financing
- Infrastructure

At the same time identifying obstacles/opportunities, their solutions to overcome the difficulties should be determined. Bear in mind that solutions should be as much as possible commercial solutions.

Throughout the study, we identify not only obstacles/ opportunities of sub-sector/value chain, but also we carry (i) unveiling the influence of linkage in the value chain, (ii) define the collaboration of businesses that are in horizontal and vertical linkage, (iii) comparing the compliance of world standards at the local level

Phase 3: Identifying commercial or market solutions

On this phase, we will identify the reasons for previously determined obstacles/opportunities as well as business solutions aimed at eliminating these obstacles. Business solutions often refer to identifying the potential body to effectively implement solutions that will undertake via commercial principle. In identifying the solutions, we did not pay huge attention to describing what the program can do.

The solutions were selected among all possible commercial solutions upon prioritizing them in accordance with the importance. This will be vital for in-depth analyses on solutions furthermore.

Phase 4.Assessment of solutions
Commercial solutions assessment have to be identified on every solution considering the demand (who will use the solution?) and supply (who will implement?) as well as which side will be responsible for the associated costs of solutions implementation.

In doing the solutions assessment, a participatory approach will be used i.e. those solution providers and beneficiaries should be attracted to interviews and focus group discussions organized in the aimag centers. To organize the assessment discussions of users/beneficiaries of sustainable solutions, use “Hand outs for interviews with business solutions users”, and “Hand outs for interviews with business solutions providers”, as attached in Attachment 3 and 4. For the solutions assessment, collect following data to clarify the available data. They are:

- Currently available solution implementing bodies
- Market, its potential and entry to market of solutions application
- Frequency of solutions application
- Demand and supply of obstacle solutions
- Satisfaction on solutions implementation
- Status of recognition on use of solutions
- Proposed implementing bodies for implementation of solutions, implementation cost recovery scheme
- Impact of solutions on sub-sector

Phase 5: Identify program involvement or the implementing actions

Based on data created throughout the previous phases, we identified obstacles that the consumers and solutions implementing bodies may encounter in the course of implementation as well our intervention in the process followed up by the detailed action plan.

Survey team
Survey team will be led by Senior Officer of Representative Office and the team will consist of 3-5 members.

Budget
Total budget..................................MNT

Cost	Unit	Amount	Unit cost	Total cost
Consultant cost				
Hiring local consultant				
Organizing focus group interview				
Travel cost				
Gasoline				

Food				
Accommodation				
Other				
Total				

Survey time planning

a) Select the sub-sector/value chain with highest importance on local economic development- By 8 October 2007
b) Develop the drafts of survey questionnaire, develop survey models, organize training and build capacity of the tram- By the end of October 2007
c) Carry out sub-sector/value chain analyses – Following the sub-sector/value chain training – for 35 working days and finish by 20 December 2007
d) Identify market solutions – Most of this work will be done during the study, so this will take no more than 10 working days- by 10 January 2008
e) Assessment of commercial solutions – start just after the solutions identification and last for 10 working days- By 10 January 2008
f) Define implementation activities and prepare the report- 20 working days after the solutions assessment- Finish by 20 February 2008

Calendar plan

Months	**OCT**			**NOV**					**DEC**				**FEB**				
Week	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**5**
Day	**8**																
Selecting the sub-sector	**																

**Throughout 2007-2008

P.S: Add the final detailed dates later.

Attachment 5
Sample plan for organizing focus group interview

Focus group interview will be made with meat producers and traders, so they interviews will be organized separately in order to clearly identify the obstacles and the solutions. In organizing the interview for solutions assessment, make the solutions users and providers at the same time in a joint group.

Interview with herders has to have representatives of different herders (with 201-500, 501-1000, 1001 or more animals). In order to make the interview effective, one group interview should have 8-10 herders and 5-6 traders-changers.

All these following issues have to be resolved prior to the interview.
- *Interview venue* should be big enough to contain all the interviewees. Aside from being a warm place, this can be a big size *ger*. There are too many outside voices and barriers that distract interviewees like children coming in and out, dog barking and vehicles drive by, so select your location away from the outside voice.
- *Interviewer* should be able to motivate and promote people to share their opinions freely and guide the interview not telling his or her own idea, but letting others talk. In case someone talks too long or slips to other areas such as politics, the interviewer has to correct the interview. Maybe politely say "Thanks for your input, now we will listen to Mr. Dorj" etc and support participation of every one.
- *Appointing the note taker.* There should be a note taker that writes down all the ideas told by the interviewees. If a note taker is one person, there are some problems like tiredness or distraction, so the team members should work as a note taker in turns.
- *Time planning.* It is important to plan the time required for the focus group discussion. Plan the total required duration no longer then 1.5 hours. Plan the issues to be discussed and allocate the time for each issue.

Plan for focus group interview

Interviewer:
Note taker:
Duration: 1 hour 30 minutes

Steps	Period	Required materials
Step 1: Introduction After the salutation with interviewees, let them get to know each other i.e. interviewees introduce themselves one by one.	5-10 minutes	Introduce the key issues by writing on the chart or board.
Step 2: Introducing the purpose Introduce the interviewees with the purpose of the focus group discussion and ways to reach the goal	5 minutes	Power Point presentation
Step 3: Introducing the key issues	5 minutes	Power Point presentation, display, demonstration on paper
Step 4: Group discussion. Start the discussion of issues one by one and listen to the opinions of the interviewees. In order to make interviewees feel free, use motivational tools.	70 minutes	Display, paper, voice recorder
Step 5: Final discussion review and summary The interviewer summarizes the findings and present to the interviewees. Ask if there is anything important omitted or unanswered, if yes, let 1-2 people to add an give comments., Finally express gratitude and say thank you for input.	5 minutes	

Attachment 6
Questions for the focus group interview (herders, sellers and changers)

(The questions are subject to change and flexibility in accordance with the nature on interviewees' businesses)

1. Who do you mainly sell your cattle or beef? Who are the most influential local buyers? Do you make contract with them? Do you get down payment?
2. What is the current demand and sales if beef? What is the trend? Do you encounter any obstacles in selling more cattle and beef? What are the best solutions to obstacles?
3. What are the difficulties in beef production and increasing beef sale?
4. What are the obstacles in delivering beef/cattle to the market? How can we solve this problem? Are there any needs that you should cooperate? Do you work together in cooperation?
5. What do you think is the most important activity to produce more cattle/beef?
6. Do you, your group or household buy any other services of materials to raise cattle and produce beef? What is the availability and supply of inputs? What are the obstacles? What are the solutions?
7. Are there any cases that your business needs additional funding? Where do you refer to in this case? Do you get down payment to pay later in cattle or beef. If so who do you get payment? What are the constraints and obstacles in financing your business? What are the solutions?
8. What are the legislations and regulations that favor the beef business? What are the legislations and regulations that barrier your business?
9. Are there any serious obstacles related to transportation, communication, warehouses, storage facilities, refrigeration, crime and corruption? What are the solutions to overcome them?

Attachment 7

Total livestock quantity and growth (in thousands)

Years	2000	2001	2002	2003	2004	2005	2006	2007
Camel	322.9	285.2	253	256.7	256.6	254.2	253.5	260.6
Horse	2660.7	2191.8	1988.9	1968.9	2005.3	2029.1	2114.8	2239.5
Cattle	3097.6	2069.6	1884.3	1792.8	1841.6	1963.6	2167.9	2425.8
Sheep	13876.4	11937.3	10636.6	10756.4	11686.4	12884.5	14815.1	16990.1
Goat	10269.8	9591.3	9134.8	10652.9	12238	13267.4	15451.7	18347.9
Total	**30227.4**	**26075.2**	**23897.6**	**25427.7**	**28027.9**	**30398.8**	**34803.0**	**40263.9**

Ulaanbaatar city average meat price (MNT)

Years	2000	2001	2002	2003	2004	2005	2006
Beef	1103	1182	1173	1435	1724	2348	2500
Mutton	1135	1157	1076	1352	1596	2124	2273

Meat consumption amount per person of Mongolia according to meat yield (kg)

Years	2000	2001	2002	2003	2004	2005	2006
Population, in thousands	2407.5	2442.5	2475.4	2504	2533.1	2562.4	2594.8
Average person, conversion co-efficient	0.912	0.912	0.912	0.912	0.912	0.912	0.912
Average person, in thousands	2195.64	2227.56	2257.56	2283.65	2310.19	2336.91	2366.46
Meat consumption per person, kg	129.9	93.4	83.1	62.3	81	75.4	66.2
Total required meat amount, in thousand tonnes	285.2	208.1	187.6	142.3	187.1	176.2	156.7

Total meat production (in thousand tonnes)

Years	2000	2001	2002	2003	2004	2005	2006
Beef	113.4	66.9	60.7	43.6	57.3	48.6	44.2
Mutton	120	104.6	94.9	80.9	97.8	94.8	88.4
Pork	0.9	0.5	0.2	0.2	0.2	0.2	0.2

Total number of animals consumed for food (in thousands)

Years	2000	2001	2002	2003	2004	2005	2006
Camel	47.1	45.4	31.8	20.7	33.3	33.4	29.3
Horse	477.9	327.9	314.2	193.6	317.6	324.5	277.9
Cattle	886.6	549.6	502.5	388.7	454.2	389.5	367.8
Sheep	4306.2	3916.5	3739.6	3104.4	3204.3	2918.2	2896.1
Goat	2401.5	1924	1488	1327.1	2395.5	2618.8	2326.9
Total	**8119.3**	**6763.4**	**6076.1**	**5034.5**	**6404.9**	**6284.4**	**5898**

Cattle quantity growth and spread (in thousands)

Years	2000	2001	2002	2003	2004	2005	2006
Arhangai	428.6	277.3	253.4	230.9	231.7	253.2	281.3
Bayanhongor	158.1	109	82.6	85.3	90.6	96.7	108.9
Gobi-Altai	60	39.9	16.5	19.9	24.8	30.6	37.6
Dornogobi	89.4	44.5	37.3	44.7	49.9	44.7	27.2
Dundgobi	43.3	30.1	32.7	36.9	42.1	43.8	40.3
Zavhan	158	88.8	83.1	87.4	96.2	107.2	127.2
Uvurhangai	174.8	99.3	75.3	83	91.2	99.7	111.1

Umnugobi	23.8	12.1	6.9	5.9	7.4	8.6	8.7
Suhbaatar	209.6	137.9	140.4	151.3	138.4	125.3	128.6
Uvs	105.7	90.4	83.1	89.3	100.3	103.9	120
Hovd	137.3	93.6	72.4	73.7	83.6	94.6	105.6
Gobi-Sumber	10.6	1.9	2.3	3.3	3.9	4.5	4.8
Total	**1599.2**	**1024.8**	**886**	**911.6**	**960.1**	**1012.8**	**1101.3**

Production of meat products

	Unit	2000	2001	2002	2003	2004	2005	2006
Processed meat	Thousand tones	6.4	12	6.8	11.1	4.3	4.8	7.8
Canned meat	Tonnes		33.7	63.7	44.7	75.2	201.4	349.8
Sausage	Tonnes	754.7	727.5	950.6	1170.6	1272.2	1294.7	1225.4
Exported meat	Thousand tones	16.7	19.8	23.3	15.1	8.4	7.8	11.7

Average meat yields of animals

Camel	Body weight, kg	457.5
	Meat yield, kg	225.5
	Meat yield, coefficient.	0.5
Horse	Body weight, kg	278.5
	Meat yield, kg	131.5
	Meat yield, coefficient.	0.47
Cattle	Body weight, kg	272.2
	Meat yield, kg	140.5
	Meat yield, coefficient.	0.48
Sheep	Body weight, kg	44.5
	Meat yield, kg	19.2
	Meat yield, coefficient.	0.43
Goat	Body weight, kg	35.2
	Meat yield, kg	15
	Meat yield, coefficient.	0.43