

OPPORTUNITIES TO IMPROVE PROFITABILITY OF CATTLE FARMING IN BULGAN SOUM OF KHOVD PROVINCE, MONGOLIA

WHY CATTLE?

Cattle is the most profitable livestock in Bulgan Soum if family labour for production is considered as a cost (Figure 1). The profitability comparison between livestock types is made using “sheep unit” according to FAO (2006).

Labour cost shares are 35% of total costs for cattle, 45% for sheep, 55% for goat farming. Hence, sheep and goat require more labour than cattle. Herders earn bulk cash income from goat cashmere in spring, but cattle is more productive for meat and milk (Table 1).

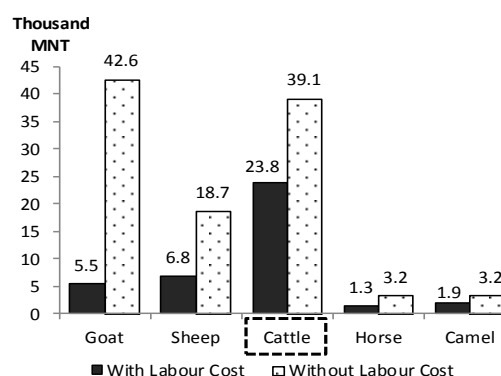
Table 1. Output comparison

	Meat output (kg per sheep unit)	Milk output (Litre per sheep unit)
Cattle	35.3	0.46
Sheep	20.5	0.24
Goat	18.4	0.29

Note: 1 adult cattle = 5 sheep units (SU), goat = 0.9 SU, sheep = 1 SU.

Keeping several livestock species at the same time is crucial. Cattle damage the pastureland less than goats, which is due to their eating habits. In Mongolia, goat accounted for 19% of total livestock in 1970, but for 42% in 2014. This is due to high production of cashmere for earning cash, even though our data shows that cattle is more profitable (Figure 1).

Figure 1. Annual profit per sheep unit of livestock in 2011



WHEN TO SELL BEEF?

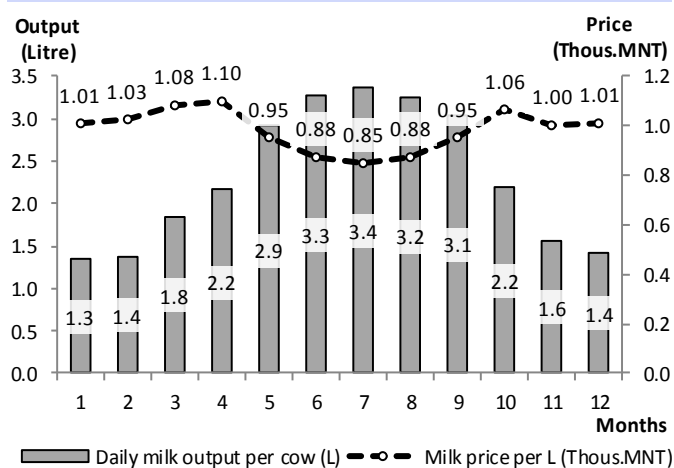
Slaughter cattle in November and store meat in cold cellar until spring. The market price of beef is highest in the spring season (national traditional celebration “*Tsagaan Sar*” or Lunar New Year in February), when supply is shortest.

WHEN TO SELL COW MILK?

As milk production increases from May to August, the price of milk decreases (Figure 2). The price of milk is highest from February to April, when the milk production is lowest. Hence, one way of improving profitability of milk production is to produce and sell more milk when milk price is high, and supply is limited, especially in spring. This can be achieved as follows:

- 1) Organize the breeding/calving period: pregnancy control;
- 2) Milk the cow for more months, especially if it did not get pregnant;
- 3) Take veterinary services to cure if female cows do not get pregnant;
- 4) Allocate more labour for milking;
- 5) Feed during winter season.

Figure 2. Daily milk output per cow and price of milk in 2011



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Figure 4. Cooperative Dairy Production in SLSP

COOPERATIVE DAIRY PRODUCTION (Pilot Project Proposition)

Sunkhul Lake summer pasture (SLSP) is shared by herders of Bulgan, Uyench soum of Khovd province, and Bulgan soum of Bayan-Ulgii province. It is located far from soum centres and at 1500-2000 m above sea level. Individual milk producers in SLSP face problems: isolated from market, no electricity to store and process milk, no company to buy the milk.

One way to increase the income is to produce dairy products by processing raw milk, that are easy to store and transport, and sell them later when market demand and prices are high. When herders cooperate, then total cost reduces significantly.

Product choice: Dried curd (DC), clarified butter (CB), and distilled vodka (DV) are chosen as product types because they are well marketable and produced within one production line in comparison to other types of dairy products (Figure 5).

Activities: 3 *Gers* (1 storage, 2 processing) are installed in SLSP from June to August. 30 households each supply 22 liters of cow milk from 5 cows per household per day. In total, 26 tons of milk can be collected to produce 2602 kg DC, 1084 kg CB and 2168 kg DV in a year. The cooperative sells 50% of DV during “Naadam” celebration in September, and the remaining products are stored and sold in Khovd city during Lunar New Year celebration in February.

Profitability:

Investment needs: 26.9 million MNT

Project duration: 10 years

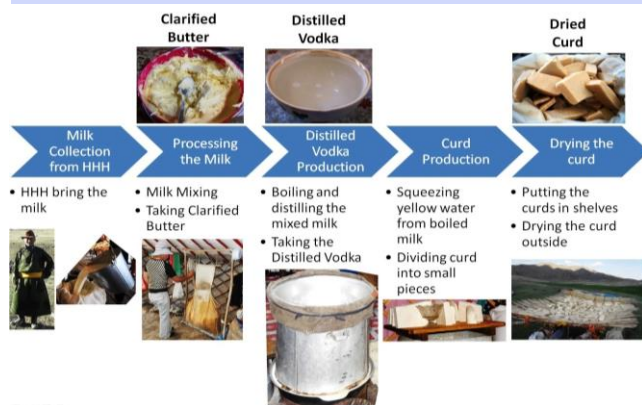
Table 1. Annual average financial indicators of the pilot project (Million MNT)

Total income (A)	21.3
Operational cost	7.6
Replacement cost	0.8
General cost	2.2
Investment cost	2.7
Maintenance cost	1.2
Total cost (B)	14.5
Profit (C=A-B)	6.8
Profit per household (C/30)	0.23

Main contributors: Ganzorig Gonchigsumlaa, Georg-August Universität Göttingen, Germany.

Key references: Gonchigsumlaa, G. and von Cramon-Taubadel, S. (2015). 'Competitiveness of pastoral livestock production in case of Mongolia: Application of Policy Analysis Matrix (PAM)', working paper

Figure 5. Production Process for Selected Dairy Products



DISASTER RISK REDUCTION FOR CATTLE FARMING DURING DZUD

Cattle is more vulnerable to die in a dzud disaster compared to horse and camel. Measures should be taken to avoid loss of livestock, both by private and government actions:

Private herders: Winter preparation (stock adequate amount of hay, prepare warm shelter), *OTOR* movement in autumn and winter for better pasture, early measures based on climatic information.

Government: Improve early warning system and weekly announce the weather conditions to herders. Develop strategies to support meat export especially before Dzud starts. Launch hay preparation campaigns.