Production, consumption and tendency of milk and dairy products in Mongolia

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I. Introduction of Mongolia
Location: Northern Asia, between China and Russia

Area: Total 1,565.000 million square km

Border countries: China 4,676.9 km, Russia 3,485 km

Administrative divisions: 22 provinces; Capital city - ULAANBAATAR
Four Seasons - Spring, Summer, Autumn and Winter.

Harsh Cold and Snowy Winter

Winter average temperature: –25°C

Summer is warm and dry.

Summer average temperature: +23°C

Too Low Rainfall.

Raining season is July and August to Swell Rivers.
<table>
<thead>
<tr>
<th><strong>Population</strong></th>
<th>Approximately 3.0 million</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major religion</strong></td>
<td>Buddhist Lamaism</td>
</tr>
<tr>
<td><strong>Language</strong></td>
<td>Mongolian</td>
</tr>
<tr>
<td><strong>Currency</strong></td>
<td>Togrog (MNT)</td>
</tr>
</tbody>
</table>
Total of 40.9 million livestock

<table>
<thead>
<tr>
<th>Livestock</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAMEL</td>
<td>305,800</td>
<td>0.7%</td>
</tr>
<tr>
<td>HORSE</td>
<td>2330,400,000</td>
<td>5.7%</td>
</tr>
<tr>
<td>CATTLE ¥</td>
<td>2,584,600,000</td>
<td>5.7%</td>
</tr>
<tr>
<td>SHEEP ¥</td>
<td>18,100,000</td>
<td>44.3%</td>
</tr>
<tr>
<td>GOAT</td>
<td>17,558,700,000</td>
<td>42.9%</td>
</tr>
</tbody>
</table>

¥Including Yak
II. Milk and dairy products in Mongolia
Importance of milk and dairy products

Milk and dairy products play an important role in livelihood of Mongolian people
The main food item for Mongolians, especially for herdsmen
Every Mongolian consumes 134 kg milk and dairy products per year, (higher than average consumption of Asian countries)
Milk is thought to be very precious for Mongolians and has been consumed by Mongolians through centuries
There are over 500 hundred different types of dairy products based on regional specialty and methods
Technological specifications of Mongolian dairy products

Mongolia - reach of traditional technology of dairy production in its history

Traditional dairy production technology in Mongolia still valuable in XXI century: Ecological pure (non disposable)
Specific features of Mongolian dairy products

1. Mongolian dairy production method is created on Central Asian ecological condition.

2. Non-disposable technology: products (including sub and by) from every technological cycle is fully use.

3. Different types of dairy products made during the technological cycles with separate protein, fat, lactose, minerals and other substances from milk composition.
Specific features of Mongolian dairy products

4. Cost efficient technology: a pot, a sit, and a wooden sheet are enough at first hand.

5. Herdsmen have a specific methods to conserve and prepare the starter culture of fermented milk products in nomadic condition.

6. Many types of milk products in Mongolia - processing activity used milk from various dairy animal species.
7. Fermented milk products are differed from other countries by use of special starter, which include lactic ‘acid bacterium, yeast, and *Lactobacillus* instead of pure starter.

8. Temperature condition is most important factor for fermented milk products. Nomadic nation’s merit is domesticated lactic acid bacteria that is widely expanded in nature for dairy production.

9. Mongolians produce and use as food supply for the dried protein such as *aaruuul*, *khuruud* and *eezgii* in condition of central Asian radical climate.
Processing of Mongolian traditional dairy products

Milk

- Protein products
  - Eedem
    - Wet curd
      - Curd
      - Cheese
      - Bazmal
      - Horhoi
      - Heblemel
      - Suun huruud

- Fat products
  - Liquid milk
    - Skim
      - Shar tos
        - Tsub
          - White fat
            - Hailmag
          - Meheeriin tos
    - Yoghurt

- Fermented products
  - Koumiss
  - Clabbar
  - Tsegee

Fermented products

Fat products

Protein products
### Milk production and sales (mln.l)

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total milk</td>
<td>465.6</td>
<td>457.4</td>
<td>493.7</td>
<td>338.4</td>
<td>458.6</td>
<td>511.0</td>
</tr>
<tr>
<td>Processed milk</td>
<td>10.4</td>
<td>17.3</td>
<td>24.8</td>
<td>33.8</td>
<td>42.7</td>
<td>53.2</td>
</tr>
<tr>
<td>Imported milk</td>
<td>30.7</td>
<td>27.0</td>
<td>17.6</td>
<td>28.9</td>
<td>36.9</td>
<td>38.6</td>
</tr>
<tr>
<td>Sales level of fresh milk in Mongolia</td>
<td>2.2%</td>
<td>3.7%</td>
<td>5%</td>
<td>9.9%</td>
<td>9.3%</td>
<td>9.61</td>
</tr>
</tbody>
</table>

Countries with highly developed milk sector - 70-98%
Countries with recently (last 20 years) developed milk sector - 30-50%

Source: Ministry of Food, Agriculture and Light Industry
Supply of milk products in Mongolia

There are over 500 types of dairy products processed through industrial and traditional means.

Hardly possible to provide urban areas with milk and dairy products processed through traditional means depending on location, seasons, period of animal birth, methods and form of pasture husbandry.

Domestic production of milk is 93.6% and imported milk is about 6.3% (percent).

Over 92 percent of milk powder imported from Russia, South Korea, New Zealand. Almost 100 percent of liquid milk is ‘imported from Russia.'
Supply of milk products in Mongolia

In 2012, there are over 40,9 million heads of livestock including 2,584,6 cows.

Total number of milking cows about 878,7 thousands. The total milk reservation capacity is 511,0 million liters and of which 338,6 millions cow milk.

53,2 million liters of milk were processed by industrial means. In total 40.5 billion togrogs milk and dairy products were produced.

In comparison with the year of 2011 the production of milk and dairy products increased by 52,4 thousand tons.
The consumption of milk and dairy products by the population per day has been accounted in the range of about 430 gram or 157 kl per a year.

About 60 percent of the population lives in towns and cities. Amount of milk per person was about 92 kl in the year of 2012. This is only 58.6 percent of the amount recommended by FAO.

Consumption of milk and dairy products in rural area is far higher than recommended level. According to national statistical office, consumption of urban citizen’s 2.5 times lower than rural.

Only 10 percent of total fresh milk is processed through industrial means.
## Production of major commodities

<table>
<thead>
<tr>
<th>Commodities</th>
<th>Unit</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk and dairy products</td>
<td>bln.l</td>
<td>24.8</td>
<td>33.8</td>
<td>40.2</td>
<td>45.5</td>
</tr>
<tr>
<td>Milk</td>
<td>thous.l</td>
<td>10351.6</td>
<td>17493.5</td>
<td>20845.5</td>
<td>25120.0</td>
</tr>
<tr>
<td>Sour milk and yoghurt</td>
<td>thous.l</td>
<td>4131.2</td>
<td>6049.1</td>
<td>8786.9</td>
<td>7804.0</td>
</tr>
<tr>
<td>Ice cream</td>
<td>thous. pcs</td>
<td>16638.7</td>
<td>26450.1</td>
<td>24904.5</td>
<td>32523.8</td>
</tr>
<tr>
<td>Soured cream and butter</td>
<td>tons</td>
<td>812.0</td>
<td>731.7</td>
<td>1078.8</td>
<td>1590.4</td>
</tr>
<tr>
<td>Cheese and curds from sour milk</td>
<td>tons</td>
<td>143.2</td>
<td>114.8</td>
<td>70.4</td>
<td>329.0</td>
</tr>
</tbody>
</table>

Source: Ministry of Food, Agriculture and Light Industry
Location map of producers and farms

Milk processing factories - 31

Dairy farms – over 300
Challenges

• High seasonality and domination of family based production;
• Inadequate system of distribution, storing, transportation;
• Low processing capacity 9 percent processing;
• Large territory, centralization in urban areas - big consumption difference between rural and urban consumers (2.6 – 3.9 lower in city);
• High level of import
• Low productivity: 2000-3000 liters annually.
• Technological outdate – forage production, milking
Short and midterm development goals of milk sector

- To improve productivity and breeding of milk cows continuously
- To establish model dairy farms and service centers for milk cows in regions near to towns and cities
- To introduce new findings in planting fodder, treating animal
- To establish milk collecting points, and to open cooling centers
- To update and modernize equipment and technologies of factories
- To advertise the importance of consuming milk and dairy products
- To create the regulations on technologies of milk factories and follow these regulations
- To create legal and economic environment supporting milk production
Expected activities in milk sector: 2009-2013

- The amount of milk processed through industrial means will reach 60 million liters, and 45.8 percent of public needs in capital city will be met by milk processed by industrial means.

- To introduce stable system of price by connecting the price of raw milk with the quality indicators.

- To restore the processing of butter in rural areas and to develop small and middle enterprises of processing other milk products with long shelf life.

- To establish factories processing dry milk in biggest towns and cities.

- To create saling models of stralized milk in centralized markets.

- To broaden the project “Lunch at Schools”, to initiate and implement the project “A cup of milk for every child”.

- To initiate “Master plan for developing milk sector” and to implement this plan step by step.
THANK YOU FOR YOUR ATTENTION!