

# DAIRY IN BANGLADESH

## DISCOVER. INVEST. PROFIT

Milk production is one of the most important economic activities in Bangladesh, providing 3.6 million households with supplementary income. The dairy system in Bangladesh is characterized by small-scale operations, coupled with crops and other off-farm activities. Several government, NGO and private sector initiatives have made progress in transforming dairy into a more value-driven and market-oriented sector. The dairy market in Bangladesh is lucrative for investors given the country's large population, rising incomes and evolving diet.

### Growth Drivers




- One of the highest cattle density in the world: 145 large ruminants per square kilometres in 2010
- Rising demand for milk-based food products in daily consumption and as beverages
- Low cost of input (raw materials, human resources etc.)
- Introduction of UHT milk, milk powder, yogurt, flavoured milk products and other popular product varieties by dairy enterprises
- Introduction of aseptic milk packaging leading to longer shelf life

### DAIRY PRODUCTION

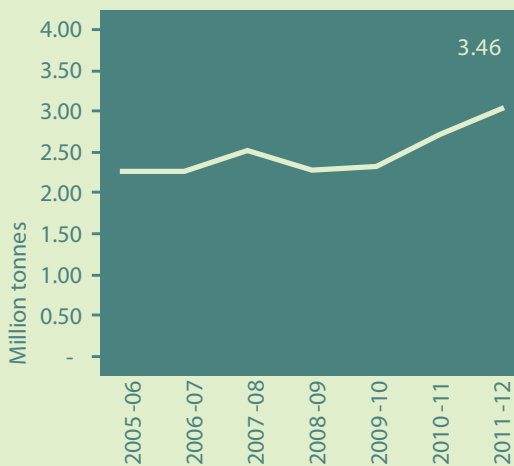
Milk production in Bangladesh annually grew by 6.2% between 2005 and 2012. This growth was largely due to higher milk production by an increasing number of cross-bred dairy cows, more institutional investment in dairy, rising market demand for processed dairy products and the implementation of other similar dairy development programmes.

### LIVESTOCK

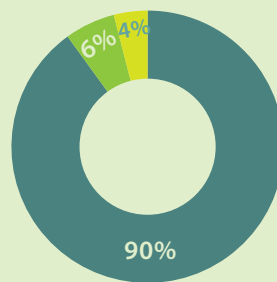
Livestock is a major component of agricultural economy of Bangladesh performing multifaceted functions such as ensuring food security and source of income, earning foreign revenue through export, supplying manure and fuel among many others.

	 Cow	 Buffalo	 Goat
<b>TOTAL NUMBER (MILLION) IN 2011-12</b>	23.2	1.4	25.1
<b>SHARE OF MILK YIELD BY SPECIES (%) IN 2007-08</b>	92.5	5.6	25.1
<b>YIELD (KG/LACTATION) IN 2007-08</b>	Crossbred: 2016 Indigenous: 280	793	10.5

### STEADY GROWTH IN MILK PRODUCTION IN BANGLADESH

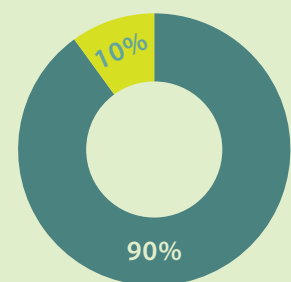


### DAIRY FARMERS ARE MOSTLY LANDLESS OR SMALLHOLDERS



- 1-3 cows
- 3-10 cows
- More than 10 cows

### 90% OF THE MILK PRODUCED IS SOLD THROUGH INFORMAL CHANNELS

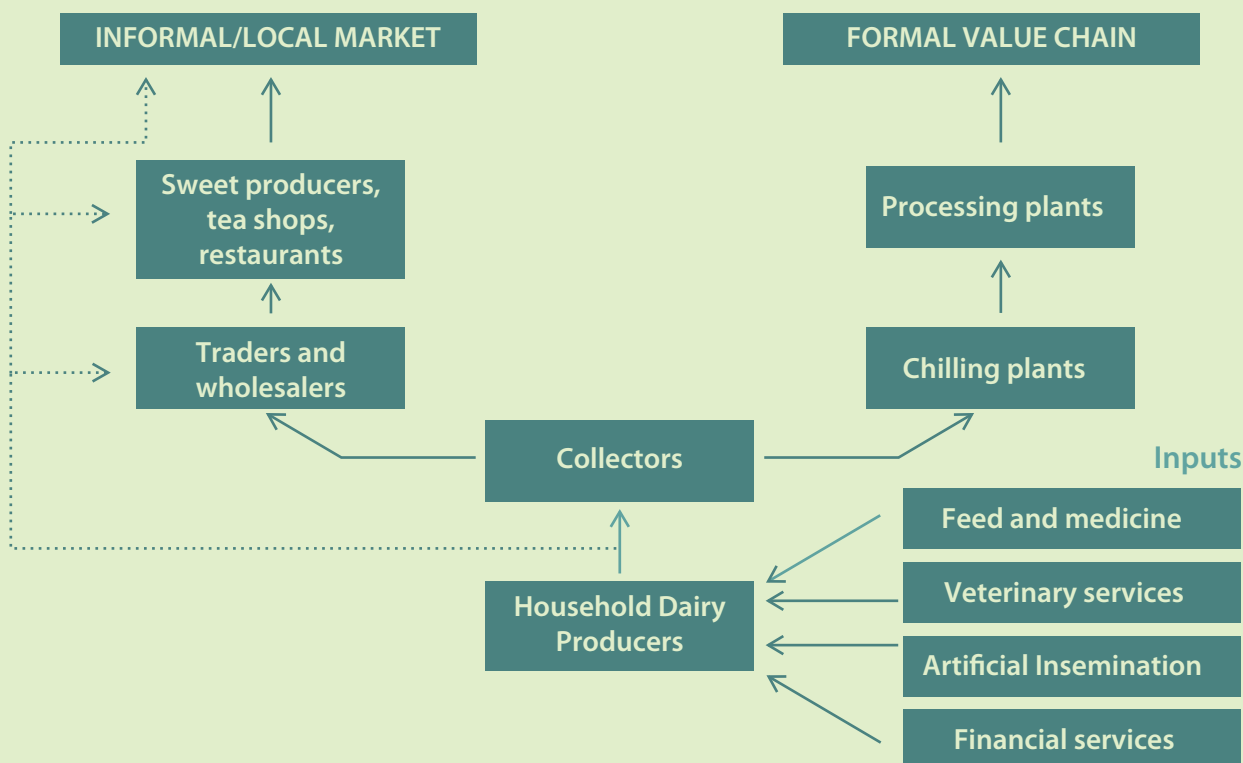


- **Informal channels**  
Milk sold directly to consumers in rural areas or to traders in local or rural markets
- **Formal channels**  
Public and private enterprises, dairy cooperatives

## DAIRY SUPPLY CHAIN IN BANGLADESH

### Formal and Informal Marketing Channels of Processing Milk

Both informal and formal milk-marketing channels coexist in Bangladesh. Smallholder milk producers supply all the milk for the informal traditional market and three quarters of the milk for formal processing market. Cooperatives and institutional dairy enterprises collect milk from smallholders through primary village cooperatives and then process and distribute the milk to all major cities in the country. The cooperative model has especially been successful in creating jobs, reducing collection and distribution costs and improving the quality of milk.



### INVESTMENT INSIGHTS ON DAIRY MARKET IN BANGLADESH

Within the formal dairy sector in Bangladesh, over 90% of the milk is processed as pasteurized packaged milk and only 10% is processed into cheese, butter, ghee and milk powder. Key leverage points for expanding the dairy market are cattle feed production, improved breeds of high yielding cows, milk collection points, dairy cold chain and product varieties.

#### Demand for Dairy Products in Bangladesh

Milk production in 2011-12	3.46 million tonnes
Demand (million tonnes) (As per WHO recommendation 250 ml a day per person)	12.8 million tonnes
Growth in demand for milk and dairy products	10% per year
Growth of local production	7-9% per year
Estimated market size in 2022	USD 63.6 billion

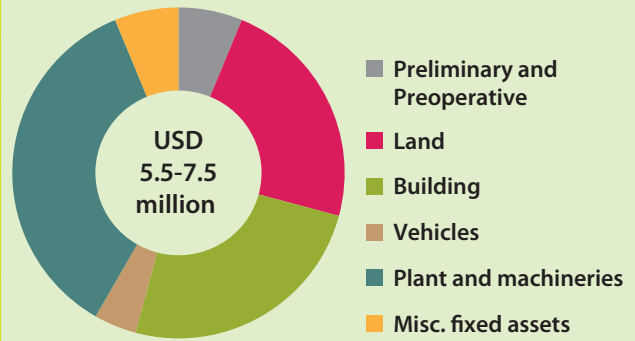
#### Dairy Product Categories Available in the Market

Pasteurized Milk | UHT Milk | Milk Powder | Flavoured Milk | Yoghurt | Butter | Cheese | Curd | Ghee

## Pasteurized and Flavoured Milk

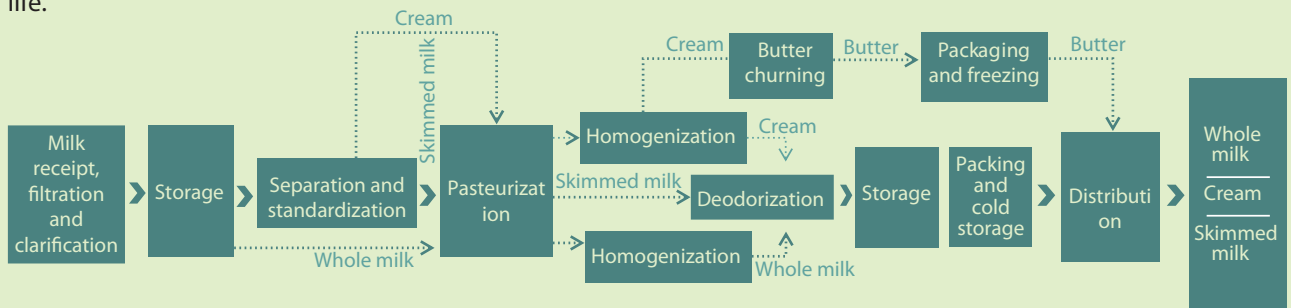
Number of dairy enterprises	15-20
Average milk collection per day per chilling station	800-1,300 litres
Milk price at source (based on fat content)	USD 0.55-0.65 per litre
Average retail price during August 2013-July 2014	USD 0.85 per litre
Flavoured milk varieties	Chocolate, mango, banana, and strawberry

MILK PROCESSING PLANT CAPACITY:  
50,000-70,000 LITRES PER DAY



## Milk Pasteurization Process

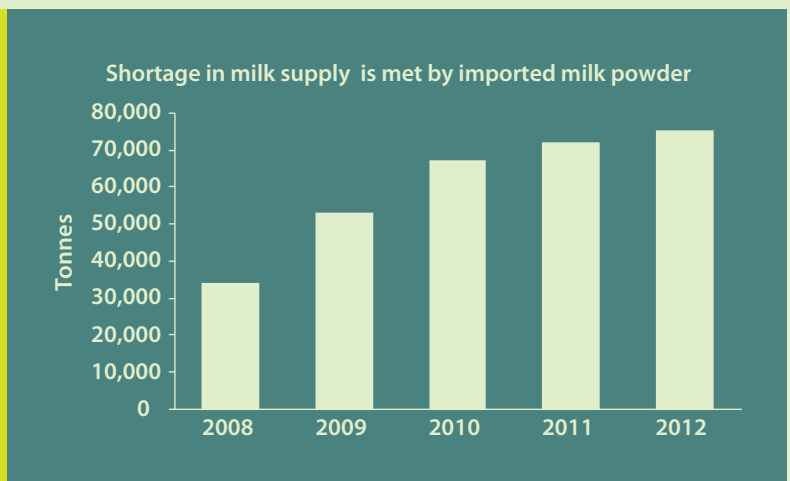
Milk is heated to 72-75 degrees Celsius for 15-20 seconds for pasteurization. With appropriate cooling and chilled distribution, it has a shelf life of 5 to 15 days. In Ultra High Temperature (UHT) treatment however, milk is heated to 135-137 degrees Celsius for only three seconds. A tetra pack of UHT milk lasts up to six months without refrigeration and preservatives. UHT milk is fast gaining popularity among urban consumers in Bangladesh due to its longer shelf life.



## Milk Powder

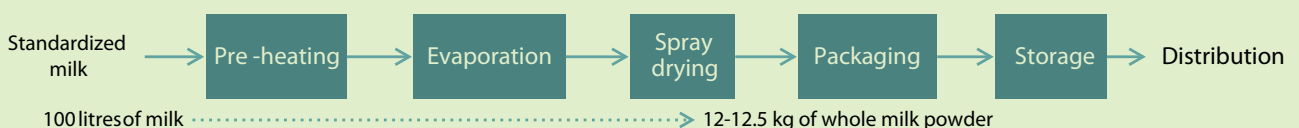
The formal milk processors source about 50% of their milk supplies from local farmers and the other 50% via imports of dairy products mainly skimmed milk powder.

Number of local producers	3
Average retail price of locally produced milk powder during August 2013-July 2014	USD 7.36 per kg
Average retail price of imported milk powder during August 2013-July 2014	USD 9.44-10 per kg
Import in 2013-14	53,539 tonnes
Local production of milk powder in 2013-14	7,000 tonnes



## Milk Powder Processing

Manufacturing milk powder involves removal of water from milk while retaining its natural properties such as flavour, solubility, colour and nutritional value.

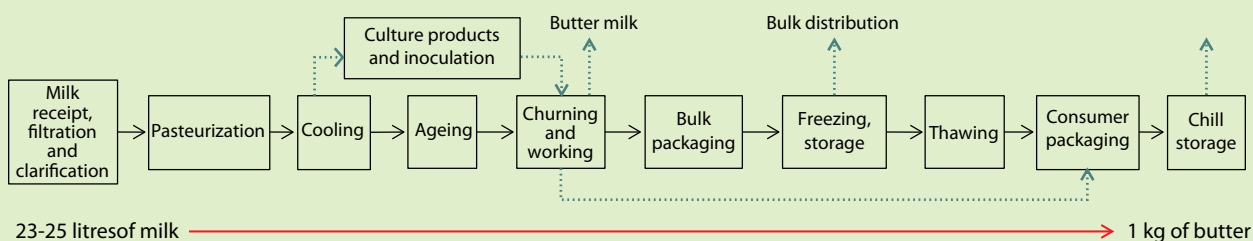


## Butter and Cheese

Number of local cheese enterprises	5-7 institutional producers among many unrecognised producers
Local production of cheese in 2013	1,000 tonnes
Imported cheese in 2013	850-900 tonnes
Retail price of locally produced cheese (mozzarella)	USD 2.8-3 per 250 grams
Retail price of imported cheese (mozzarella)	USD 3.5-4.5 per 250 grams
Number of butter producers	6-8 institutional producers among many unrecognised producers
Local production of butter in 2012	1,820 tonnes
Imported butter in 2012	3,890 tonnes
Retail price of locally produced butter	USD 8.5-9.5 per kg
Retail price of imported butter	USD 12-15 per kg

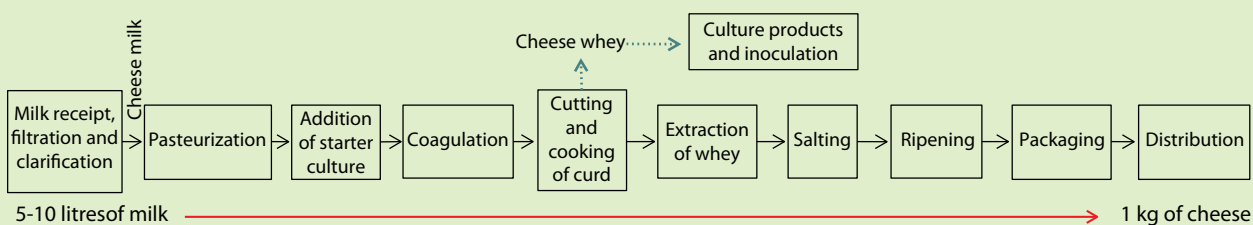
### Butter Processing

Butter is produced by churning milk cream. Demand for butter in preparing food is spreading in urban households, hotels and restaurants in Bangladesh. It is usually sold in packages of 100-200 grams.



### Cheese Processing

Cheese is made by coagulating milk protein. Farmer cheese commonly known as 'Paneer' is the most available variant of cheese in Bangladesh. Only fresh cheese is produced in Bangladesh due to the lack of demand for ripened cheese.



### Ghee and Curd

- Ghee is a type of clarified butter. It is prepared by boiling butter and removing the residue. Ghee is used as a cooking or frying medium, in preparing many kinds of table dishes, in confectionery and in traditional medicines. Eighty percent of ghee is produced by unrecognised small producers. More than 24,000 tonnes of ghee was locally produced in Bangladesh in 2013. It is sold at a retail price of USD 9-13.
- Almost all the sweet shops in Bangladesh produce curd, a popular dessert item. Curd is available in two flavours – sweet and sour. Sweet curd comprises of all the milk ingredients in a concentrated form together with sugar and caramel. Sour curd is obtained from milk by mixing edible acidic substances into the milk. Recently, few dairy enterprises have started commercial production of curd in Bangladesh. Retail price of curd ranges between USD 2 and 4 per kg.

## Further Investment Opportunities

Despite one of the highest densities of livestock in the world, the productivity of cattle in Bangladesh is far below the world average. The dairy sector offers many investment opportunities in increasing milk yield and preserving dairy products.

### Cattle feed Production

- Quality fodder increases the yield of and fat content in milk. To improve milk productivity of improved breeds of cattle, it is important to feed them a balanced diet with sufficient nutrients.
- In Bangladesh, rice straws and natural grass constitute traditional feeding of dairy cattle supplemented with a little or no concentrates.
- Commercial cattle feed produced from agro-industrial wastes and by-products, herbal feed additives, concentrates and other nutrient supplements present potential investment opportunities.

### Cold Chain

- Milk is a highly perishable item. In a country like Bangladesh with high ambient temperature, pasteurized milk can only be marketed with cold chain support. Lack of cold chain support limits the scope of marketing pasteurized milk only to urban areas. Cold storages in Bangladesh are used mostly for storing potato and have inadequate space and facilities for milk preservation.
- Dairy producers require pre-cooling facilities near dairy farms, and reefer trucks to transport dairy produce from collection centres to the centrally located cold storages, to processing plants, and finally to retailers.
- The Board of Investment (BOI) of Bangladesh has identified cold storage as a special opportunity for further investment.

### Artificial Insemination (AI)

- Artificial insemination is a technique to bring about genetic improvement in farm animals.
- Majority of the AI are performed by the Department of Livestock Services of the Government of Bangladesh and also by BRAC, a non-profit organization.
- About 2.5 to 3 million cows are naturally bred which presents an untapped investment opportunity.
- AI projects are generally implemented by trained AI workers who provide door-to-door services with supplied semen.

**Utilizing the knowledge and skills of animal husbandry experts, quantity of milk can be significantly increased from high yielding breeds of cattle.**

A.Q.M. Shafiqur Rouf, Deputy General Manager, BRAC AI Enterprise

## Business Incentives for Dairy investors

- Dairy feed is exempted from VAT Added Tax (VAT)
- Import of dairy equipment is exempted from VAT and customs duty
- Provision for 100% foreign equity
- Favourable loan facilities for entrepreneurs
- In the national budget of FY 2013-2014, duty structures were changed to accommodate more investment in local dairy production. Customs duty for powder milk import was increased from 5% to 10%. At the same time, concessionary benefit was given by Statutory Regulatory Order (SRO) for insulated road milk tanker (decreased from 5% to 2%), for animal feed (decreased from 5% to 0%), for raw milk preservatives (decreased from 12% to 0%), and also for different spare parts required for AI; supplementary duty (SD) on skimmed milk powder at the manufacturing stage has also been withdrawn.
- In the national budget of FY 2014-2015, SD rate is reduced from 20% to 15% for butter and other fats and oils derived from milk and dairy spreads, and duties and taxes on many raw materials, such as cow pregnancy test kits, universal syringe for AI, NaCl solution special grade used in AI, are fully exempted.

## Relevant Stakeholders

Stakeholders	Function
Board of Investment Bangladesh (BOI)	BOI encourages investment in the private sector, identifies hindrance of investment and provides necessary facilities and assistance in the establishment of industries.
Bangladesh Cold Storage Association (BCSA)	BCSA is a non-profit national association, has about 160 regular members besides contract farmers, suppliers and market players.
Bangladesh Krishi Bank (BKB)	The state owned bank provides credit facilities to farmers and agri-business owners.
Bangladesh Standards & Testing Institution (BSTI)	BSTI formulates national standards of industrial, food and chemical products, controls the quality of food products and oversees accuracy of weights and measures.
Micro-credit providers for farmers	The Microcredit Regulatory Authority (MRA) of the Government of Bangladesh has approved licenses for 742 NGO-Micro Finance Institutes that support rural farmers in running their farms with loan amounts up to BDT 50,000.
NGOs	There are NGO projects that aim to address the major challenges to improving smallholders' participation in the value chain, including farmer mobilization and education, access to markets and access to productivity-enhancing inputs in the remote areas.

## Social Impact

Milk is an important source of nutrition and provides numerous health benefits such as stronger bone and teeth, reduction in high blood pressure and decreased risk of cardiovascular diseases among many others. Moreover, thousands of households in rural Bangladesh depend on their small dairy farms in securing a source of income. Dairy enterprises employ and source milk from a large pool of people thereby lifting them out of poverty. Cooperative models of dairy enterprises have proven to be successful in giving rural farmers access to new markets and improving their social wellbeing.

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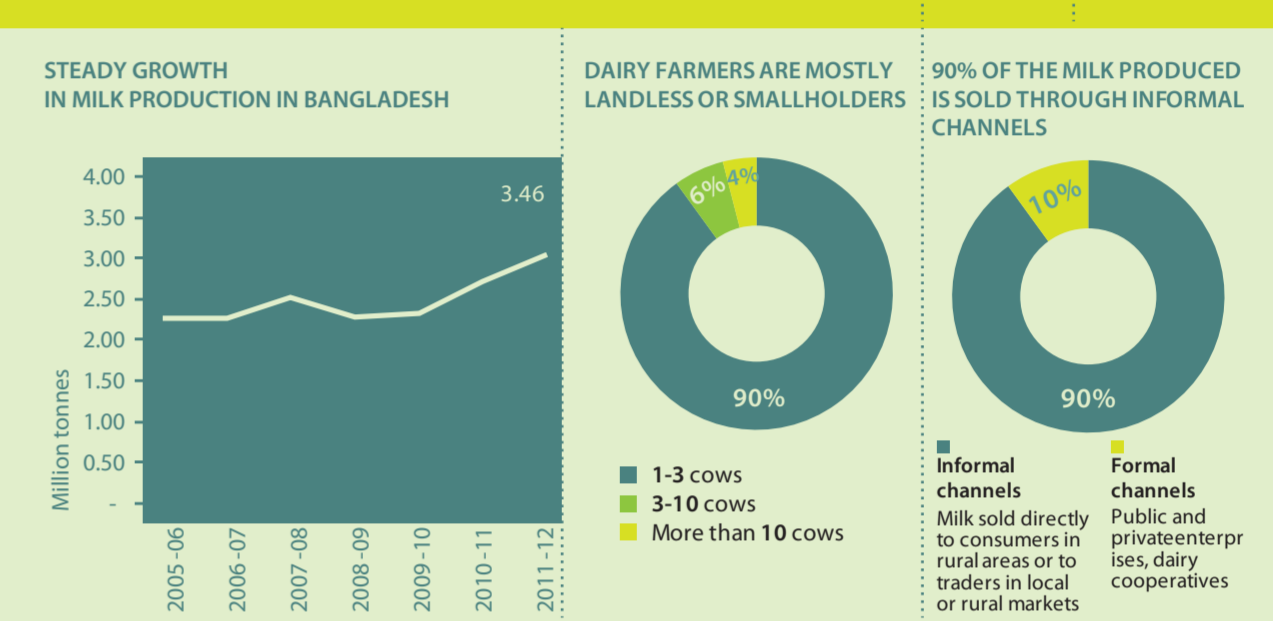
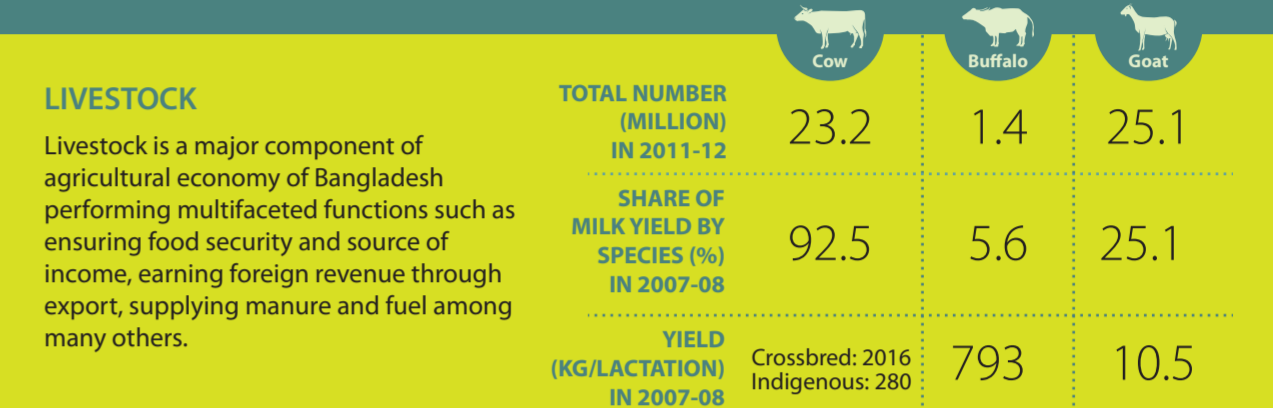
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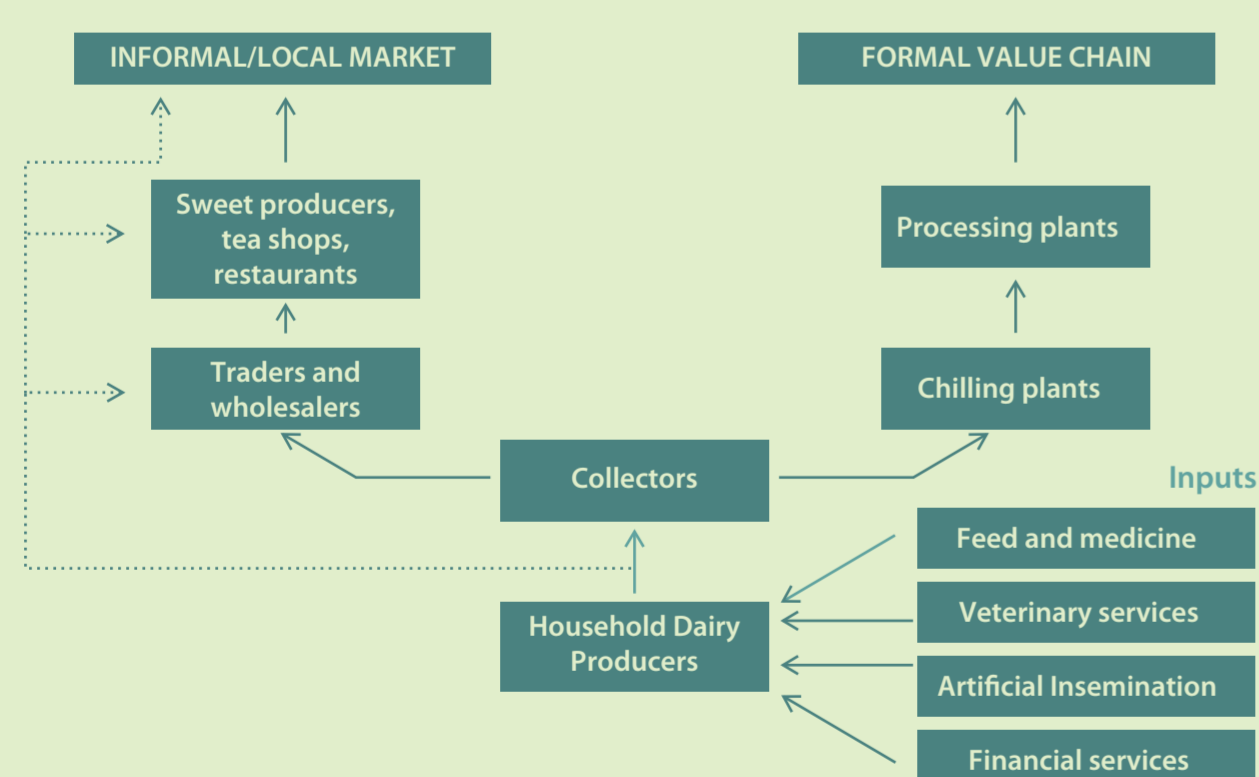
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For further information, please visit [www.boi.gov.bd](http://www.boi.gov.bd)

## DAIRY SUPPLY CHAIN IN BANGLADESH

### Formal and Informal Marketing Channels of Processing Milk

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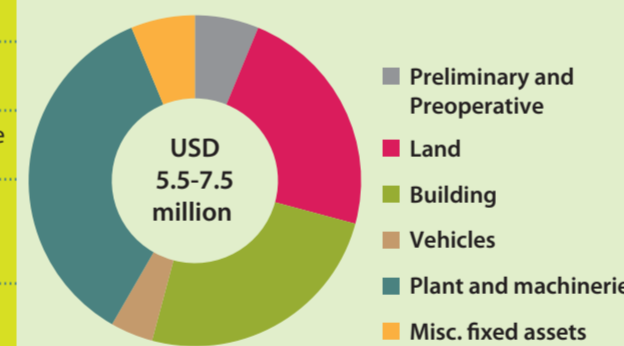
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## Pasteurized and Flavoured Milk

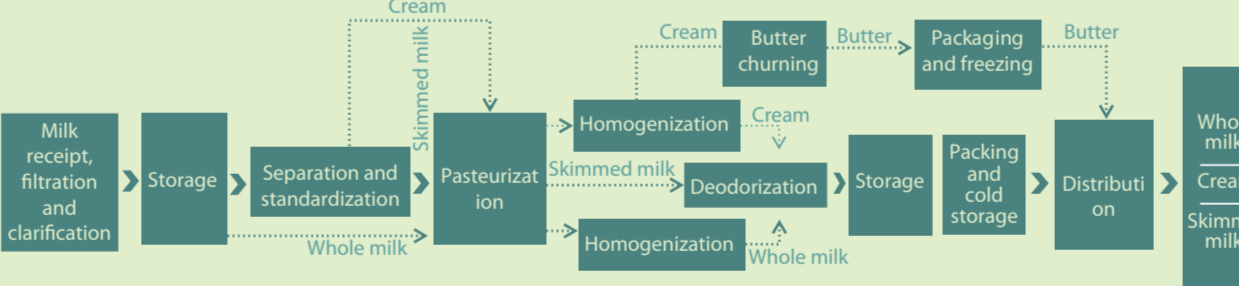
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## MILK PROCESSING PLANT CAPACITY: 50,000-70,000 LITRES PER DAY



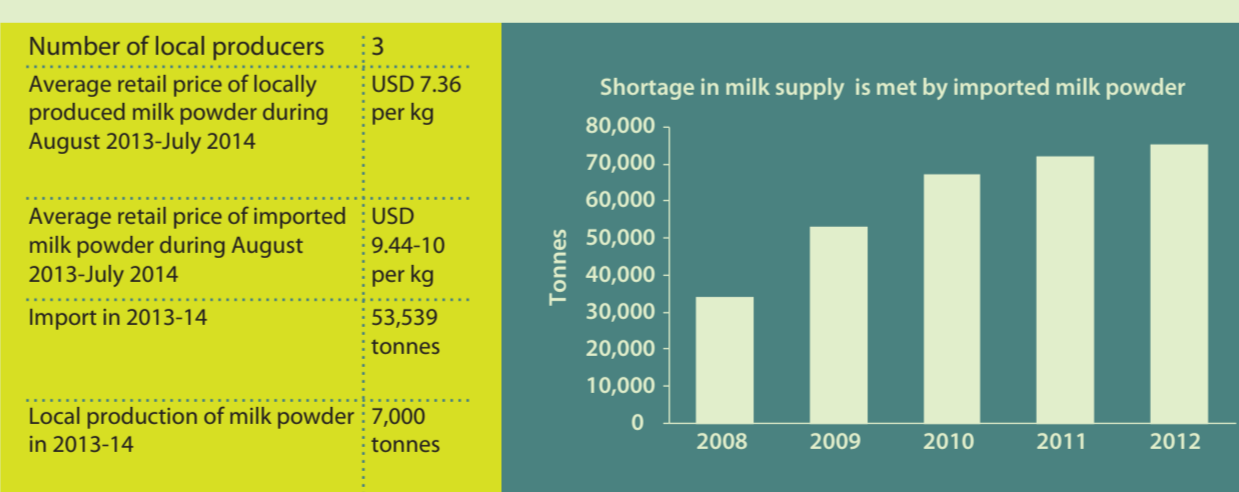
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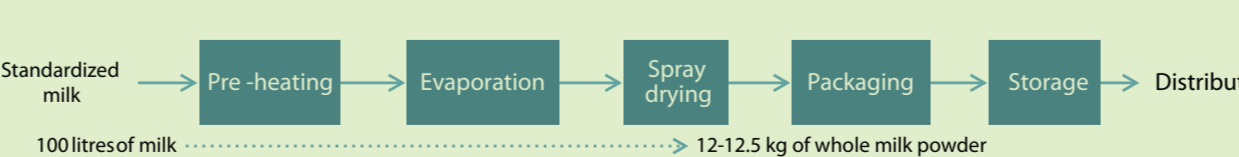
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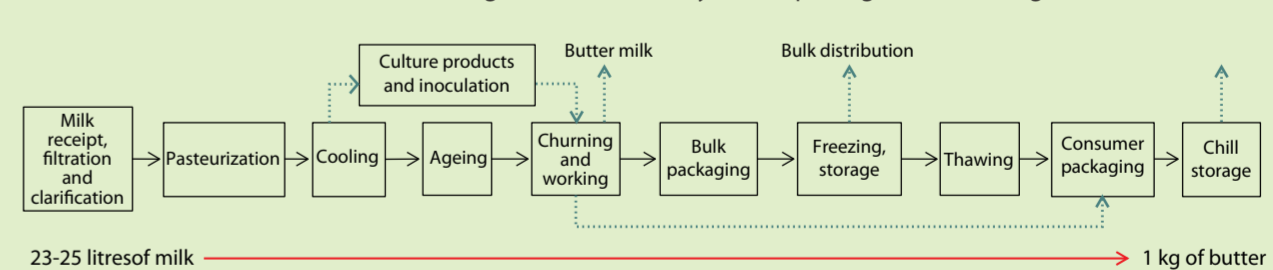


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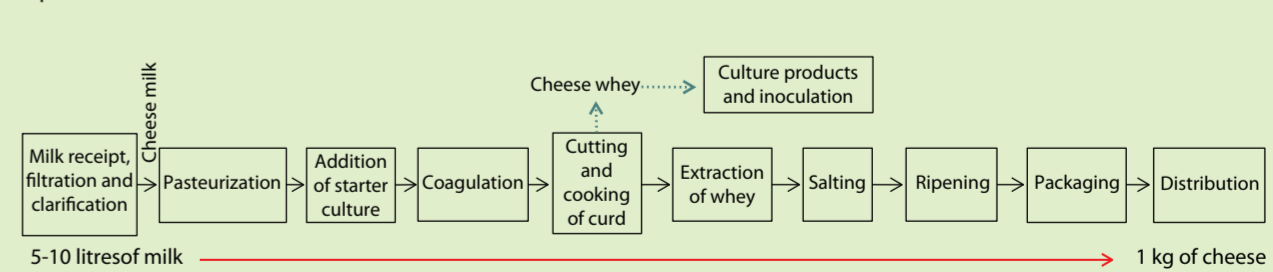
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