

## Dairy Development in Thailand

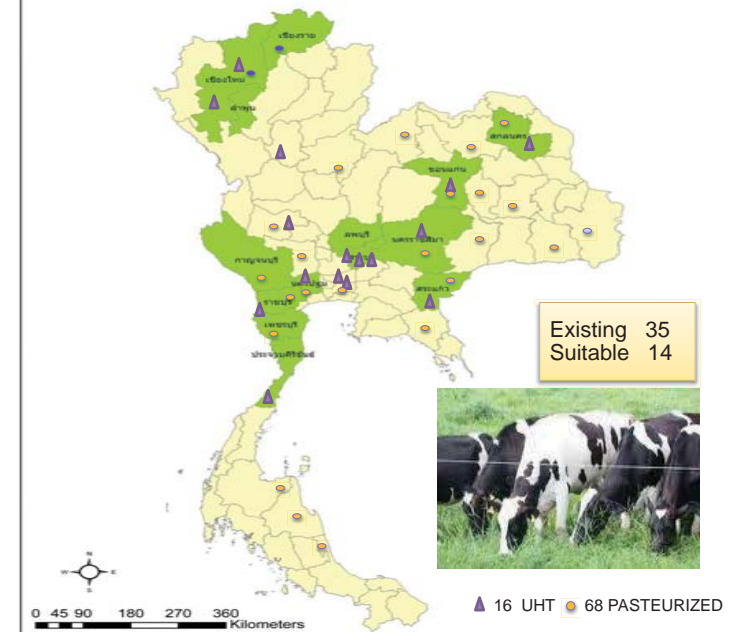


- **1910:** Dairy farming introduced
- **1960:** Royal visit of H.M. the King to Denmark
- **1961:** Technical cooperation between Denmark and Thailand signed
- **1962:** Inauguration of Thai-Danish farm in Saraburi
- **1992:** School milk programme launched
- **Present:** Continuing support of the Government (DLD and DPO) and Public-private partnership

## Dairy Production in Thailand

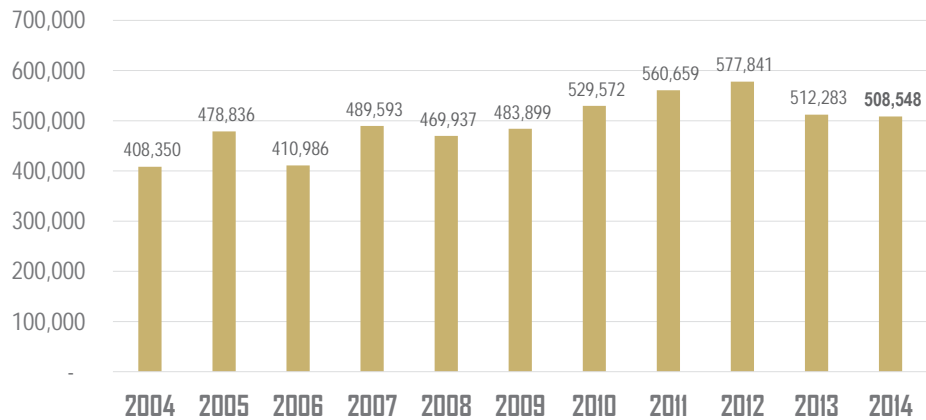


## Zoning for dairy production in Thailand





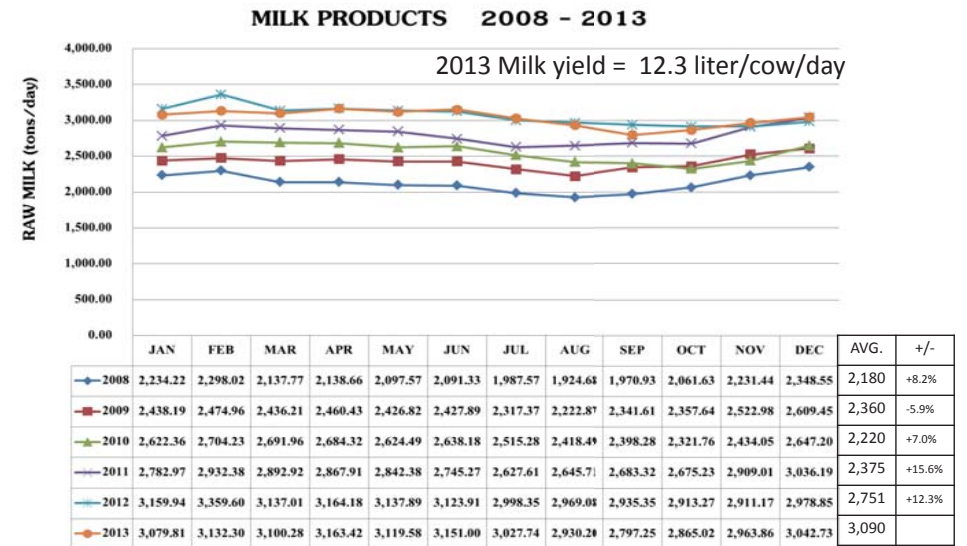
## Number of dairy cows in Thailand



- Number of dairy farmers: 16,634 (31 cows/farm)
- Number of cows in milk: 236,865

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## Raw milk in Thailand : Ton/Day



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## Dairy Farm Management



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### 1. Genetic Improvement

- Use upgrading native cows
- Produced crossbreed Tropical HF contain 82.5-93.75 % HF
- Use A.I. ~100 %



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DLD Dairy Sire: Tropical Holstein

## TROPICAL HOLSTEIN



- Development more than 10 year
- Milk yield 5,000 - 6,000 kg/lactation
- Frozen Semen 250,000 dose/year



### Sire Summaries

[http://biotech.dld.go.th/Data/Document\\_Announces/Sire\\_Summary/2552/Sire\\_Summary2552.pdf](http://biotech.dld.go.th/Data/Document_Announces/Sire_Summary/2552/Sire_Summary2552.pdf)

## 2. Feed Management

### Roughage

- Mainly: natural grass, rice straw, corn stem from sweet corn industry, corn husk
- Insufficient and low quality (protein content) especially in dry season

### Concentrate

- According to low quality of roughage, farmers use high amount of concentrate
- Mostly use commercial feed and supplement raw materials from factories e.g. beer residue, rice bran, cassava byproduct and palm cake





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Many medium and large scale farms use TMR feed

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## Milk quality control

- Co-op or Farmer group set up milk collection center with basic lab.
- Collect fresh milk from members : morning & afternoon
- Sampling every churn for release
- Quality check for payment 2/month
- Chilled (PHE) & stored in tank (<4°C)
- Antibiotic check before loading
- Transported by milk truck (<5°C)



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## Quality control at farm

- Ensure good hygiene on farm
- Good milking practice
- Milking machine check & maintenance
- Milking bucket enough to milking cow
- Avoid Antibiotics and contaminants in milk
- Send fresh milk to Milk collecting center as fast as possible



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## Quality control at milk collection center

### Quality for release

- Appearance
- Alcohol test 75 %
- Density

### Quality for payment

- Total Solid
- TPC, MBRT
- Somatic cell

### Antibiotic

- Test kit
- Delvo test (before loading)



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## Quality control at milk factory

### Sampling of raw milk

- Stir milk 25 times using Plunger (each compartment)
- Take sample from each compartment after finished stirring



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## Quality control at milk factory

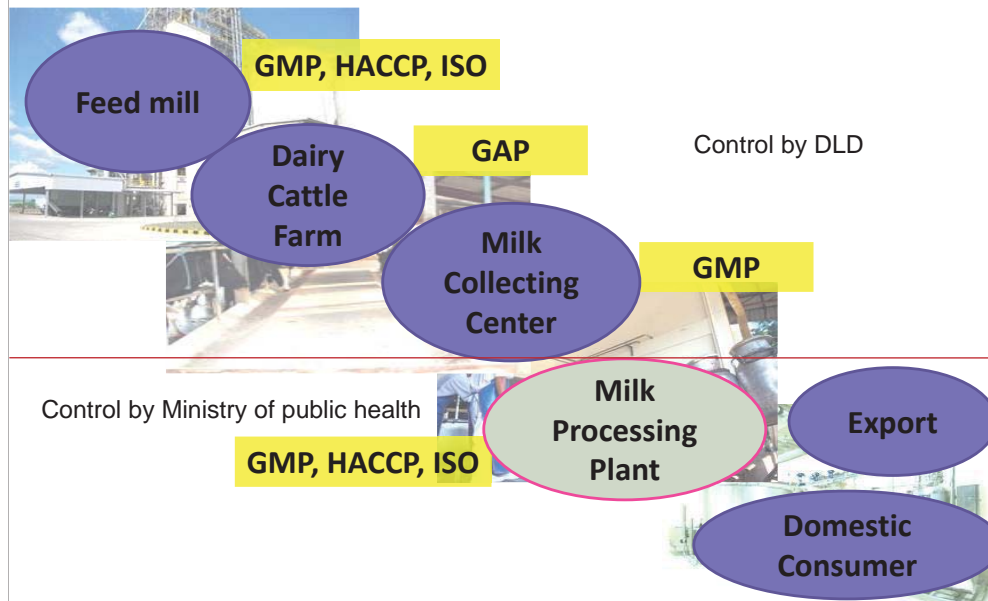
### Release Procedure

### Payment Scheme (Basic price 18 THB/kg)

Parameters	Specifications	Parameters	Specifications
Appearance, Color, Odor	IN	Fat	Min 3.2%
Temperature	Max. 8°C	Total Solids	Min 12.0%
Alcohol Test / Clot on boiling	Negative	Freezing Point	Max -0.520°C
Antibiotic by Twin Sensor, Charm Rosa/Delvo Test	Negative	Total Plate Count	<500,000 cfu/ml
Antibiotic by CHARM II (Chloramphenicol 0.1 ppb)	Negative	Somatic Cell Count	<500,000 cells/ml

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## Food safety management in dairy industry



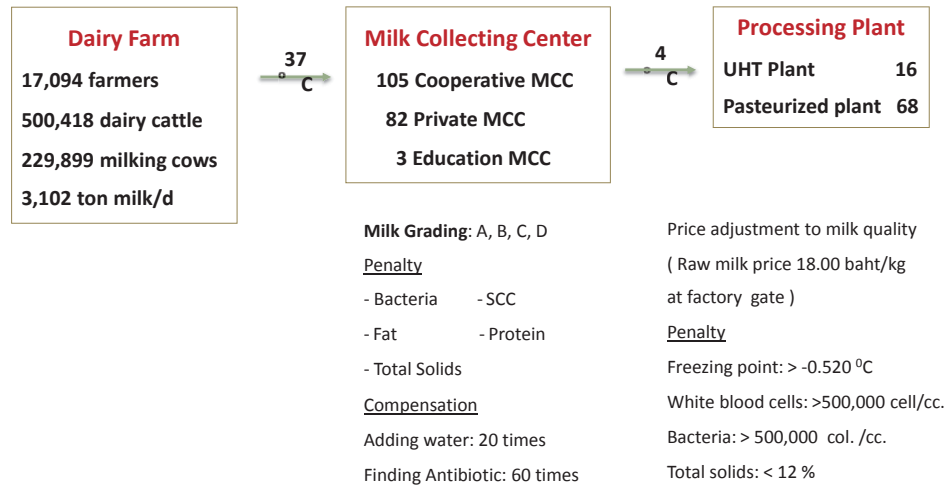
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## Process of Raw Milk Quality Control by Department of Livestock Development

### GAP (DLD)

### GMP (DLD)

### GMP (FDA)



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## Dairy marketing in Thailand



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## Dairy marketing in Thailand

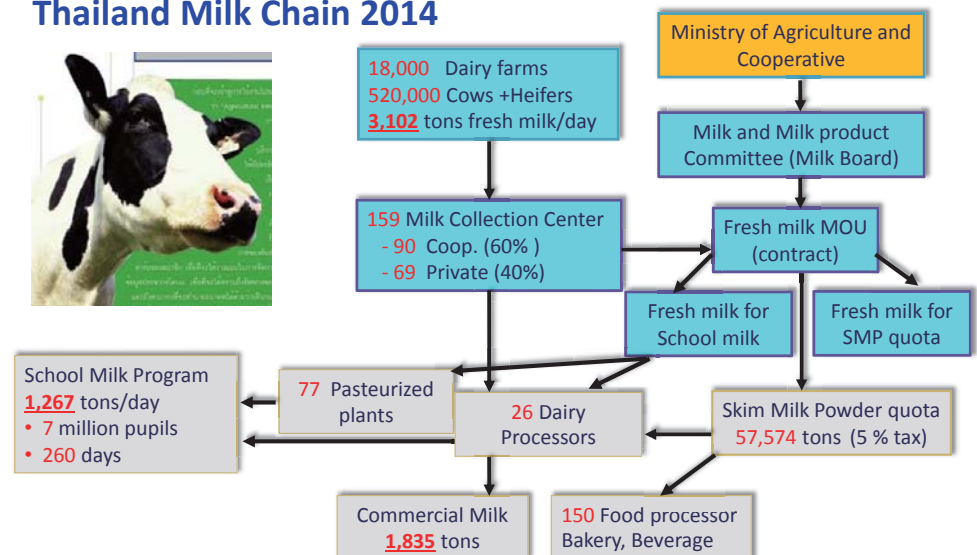
Dairy products reach to consumers through retail market or food services

Ratio of fresh milk usage 2013/2014

- 60 % to Retail market
  - Tradition trade i.e. wet market, grocery stores
  - Modern trade i.e. supermarkets, convenience stores, cash & carry stores and department stores
- 40 % to school milk program

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## Thailand Milk Chain 2014



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## Milk Board

Established since 2008, consisting of 25 members;

- Government Body (14)
- State Enterprise (1)
- Farmer Rep. (5)
- Business Rep. (5)

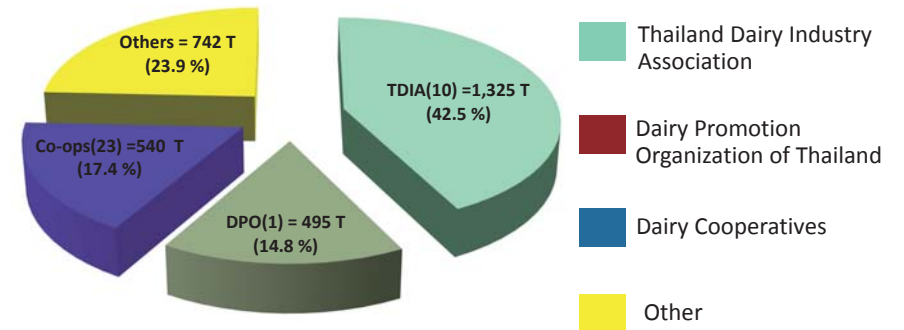
## Sub-Committee under Milk Board

1. Milk Standard
2. Milk Price
3. Milk Campaign
4. School Milk
5. Milk Management
6. Skim Milk Powder Quota

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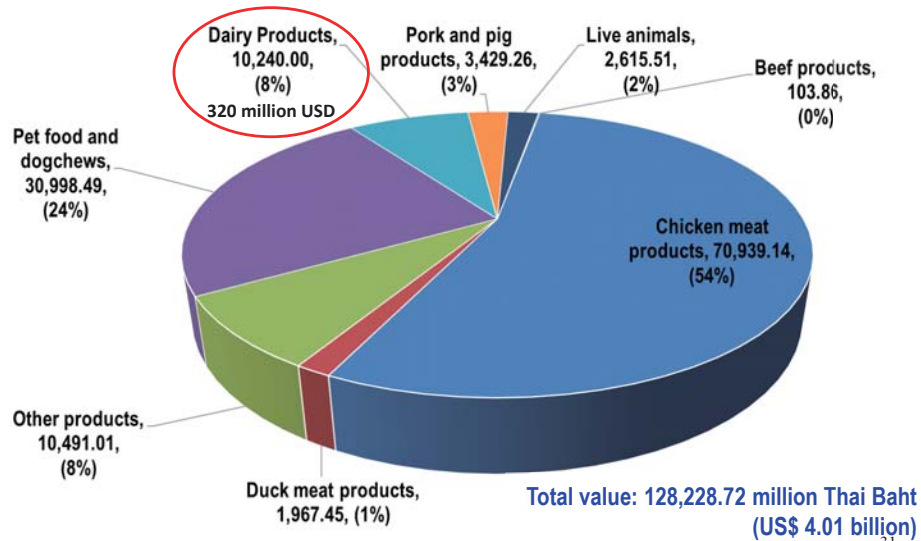
## Fresh milk requirement 2013/2014

Total fresh milk in country = 3,102 tons/day



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## Exports of Thai livestock products by types, 2013



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## School Milk Programme in Thailand



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## School Milk Programme - Today

- Products : Fresh and white milk only (liquid milk)  
: Local raw milk
- Distribution : 50% PPP (actual ~60%)  
: 50% UHT carton (actual ~40%)



### Pasteurized

- 72 manufacturers

- Chilled
- 16% lower price
- Empower MPOs / cooperatives

### UHT

- 11 manufacturers

- Convenience
- Long-shelf life
- Food safety
- Lower logistic cost

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## School Milk Programme - Today

- Budget : ~500 million USD/year  
(100% government support)
- Students : ~8 million students  
: Pre-school, Kindergarten 1 – Grade 6  
: Government and private schools nationwide
- Raw milk : 1,267 tons/day used (out of 3,102 tons)
- Improvement:
  - Malnutrition dropped to less than 5% in 2006
  - Height increased at 5 cm. a year compared to 2-3 cm at the 1<sup>st</sup> year



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## Dairy products in Thailand



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## Dairy Farming Promotion Organization of Thailand (D.P.O.) [www.dpo.go.th](http://www.dpo.go.th)



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**Chiangmai Freshmilk Co., Ltd.**  
E-mail: [chiangmaifreshmilk@yahoo.com](mailto:chiangmaifreshmilk@yahoo.com)



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**Dutch Mill Co., Ltd**  
[www.dutchmill.co.th](http://www.dutchmill.co.th)



Pasteurized Yoghurt Drink "Dutch Mill"



UHT Yoghurt Drink "Dutch Mill"



Pasteurized Yoghurt Drink "Delight"

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**Dutch Mill Co., Ltd**  
[www.dutchmill.co.th](http://www.dutchmill.co.th)



Pasteurized Cup Yoghurt "BIO"



Pasteurized Cup Yoghurt "Dutchie"



Pasteurized Milk "Dutch Mill Selected"



Choco Malt Drink  
Chocolate Flavour "DMALT"

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<http://www.cpmeiji.com>





<http://www.cpmeiji.com>



**Friesland Campina (Thailand) Foremost**

[www.foremostforlife.com](http://www.foremostforlife.com)



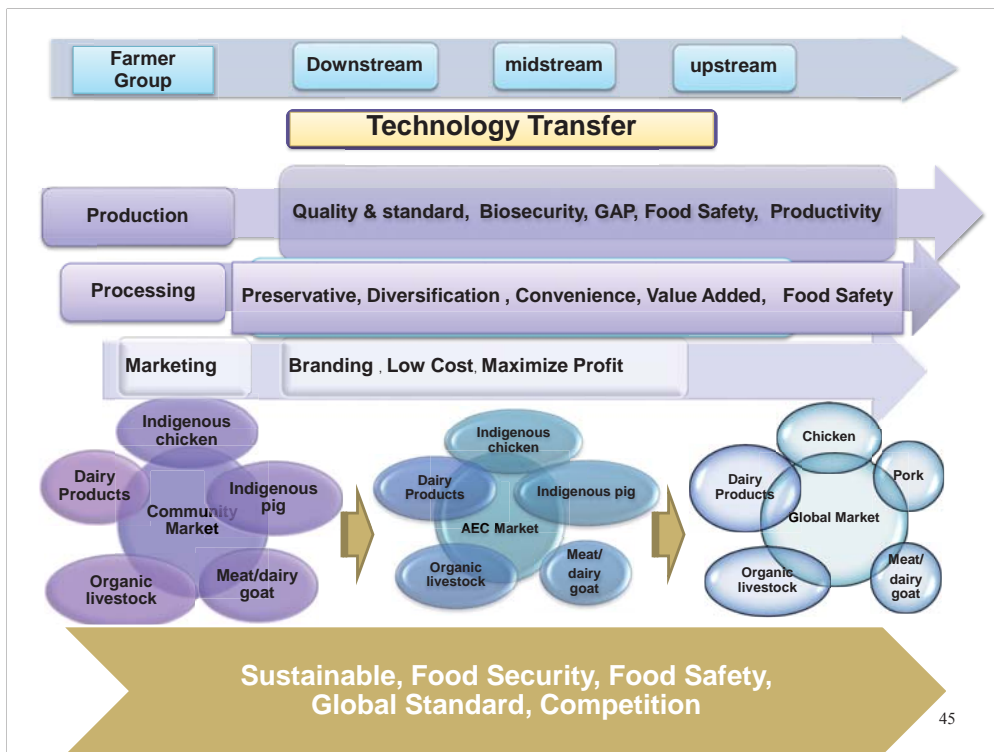
[www.fnthaidairies.com](http://www.fnthaidairies.com)

**F&N Supply Capability to Various Destinations**



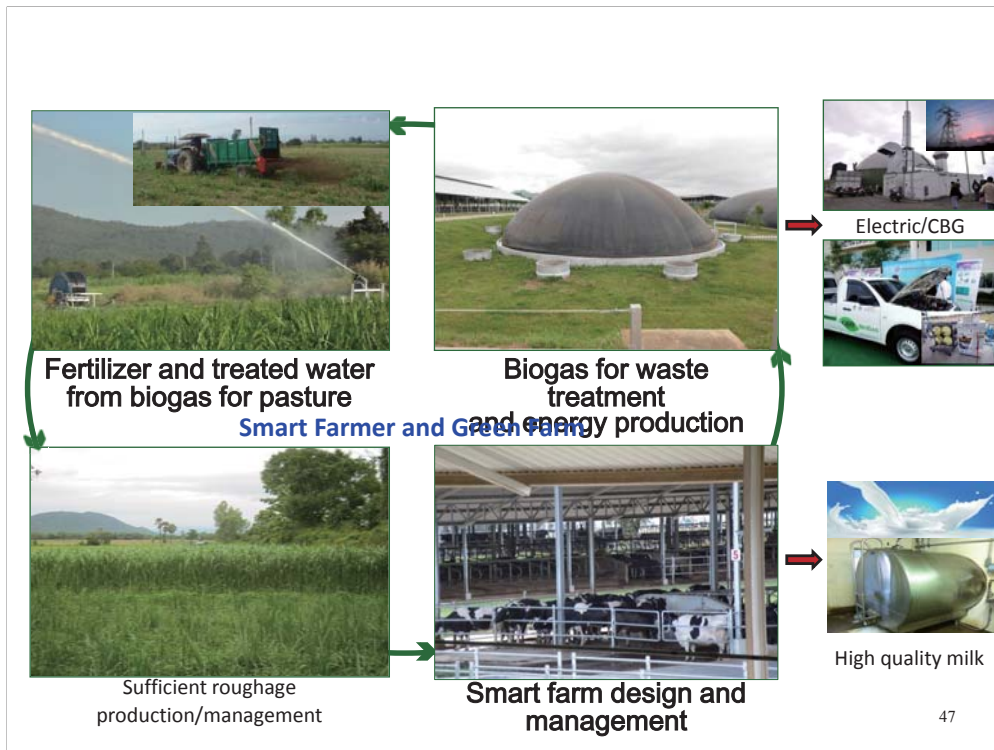
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## Future of dairy sector in Thailand

- Optimize the cost-benefit of dairy farmer (reduce the cost of production)
- Improve a quality of milk at farm and milk collecting center (GAP, GMP)
- Increase the production of domestic dairy products (i.e. cheese)
- Increase the dairy market domestically and internationally
- Extend the South-South cooperation on dairy sector development in the Region
- Smart farmer and green farm



*Thank you for your attention*