Dairy Industry in West Java: Challenges and Opportunities

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Presentation Snapshot

- Overview of the Indonesian and West Java Dairy Sector
- Key Driving Forces in the Dairy Transformation
- Opportunities and Challenges
- Dairy Business Development Models

Overview of the Indonesian and West Java Dairy Sector

Overview of the Indonesian Dairy Sector

- Indonesia's estimated per capita milk consumption is only 14.6 liters per annum which is significantly lower than 22 liters in the Philippines and 34 liters per capita in Thailand.
- Indonesia has approximately 500,000 dairy cattle which are mainly found in small numbers and tended to by individual farmers who are members of their local dairy cooperative (Koperasi Unit Desa, KUD).
- Indonesia's 2013 dairy cattle population was 636,000 head. However, with the high level of dairy cattle culling in 2013, in 2014 the Indonesian dairy cattle population will decline to 395,000 head.

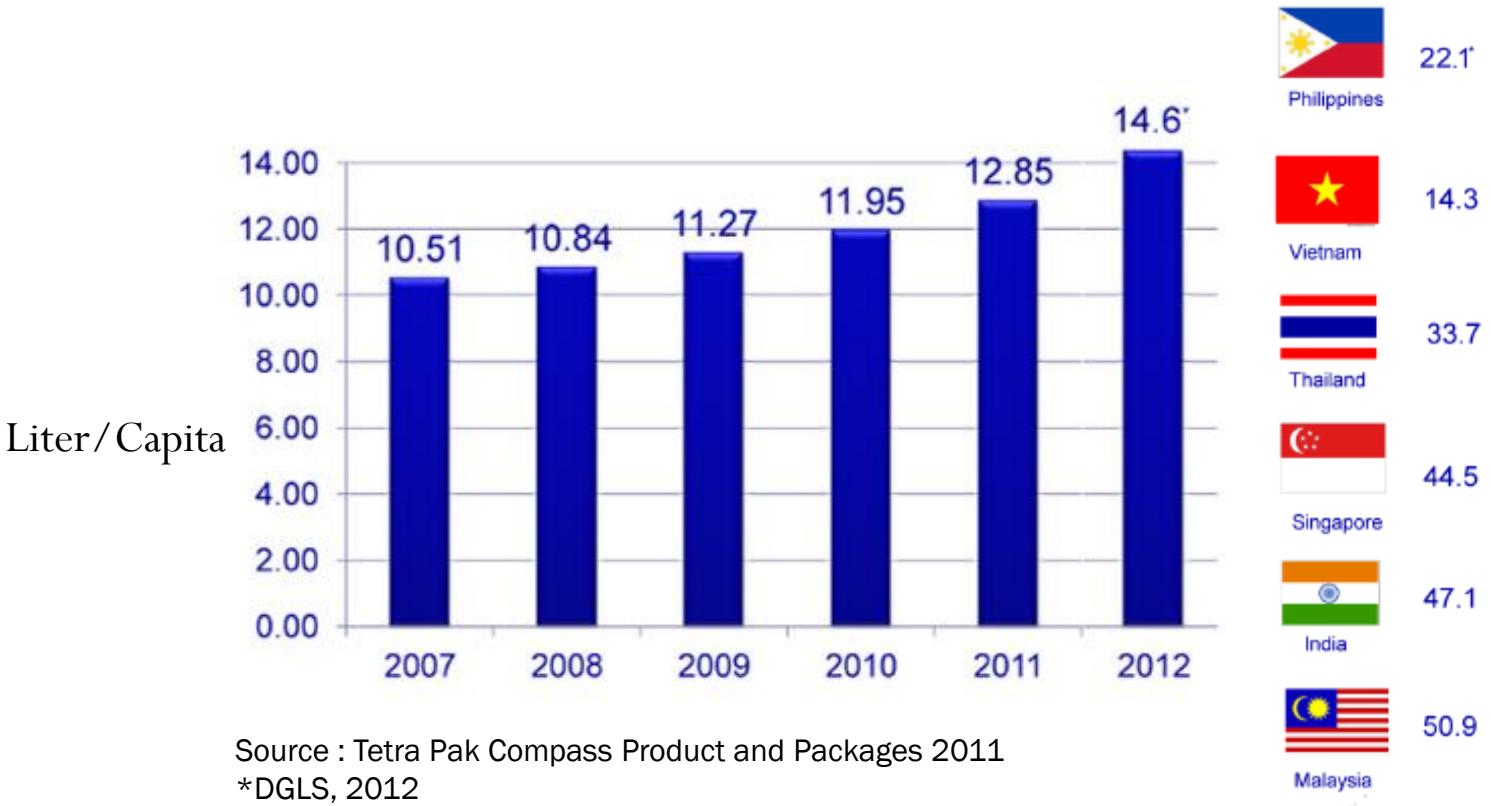
Overview of the Indonesian Dairy Sector

- Close to 90% of such farms are concentrated in West, Central and East Java with a small proportion of around 2% in Sumatra. East Java is Indonesia's largest dairy production base accounting for 57.09% of all milk production. West Java is second largest dairy producer accounting for 29.86%.
- The average productivity of cattle in Indonesia is nearly half of the international standard at 12-14 liters per day.
- Only 25% of the raw materials for milk supply are produced locally with 75% coming from foreign imports
- More than 90% of the dairy market is dominated by processed milk as opposed to fresh i.e. UHT milk and that in powdered or sterilized form.

Overview of the Indonesian Dairy Sector

- There are 192,160 dairy farmers managing about 3 cows each on average. Most of these producers average 10-11 liters per cow per day.
- Small-holder farm yields remain limited as these farms do not benefit from scaling technologies. The majority of smallholder milk is marketed through local cooperatives.

Figure 1. Indonesia's Milk Consumption



Source : Tetra Pak Compass Product and Packages 2011
*DGLS, 2012

Table 1. Dairy Cows Population and Milk Output by Main Provinces, 2013

	Dairy Cows Number	Dairy Cows Percent	Milk Production Tones	Milk Production Percent
East Java	323.814	50,90	560.398	57,09
Central Java	154.398	24,27	107.982	11,00
West Java	143.382	22,54	293.107	29,86
Other	14.470	2.27	20.099	2,04
TOTAL	**636.064**	100	981.586	100

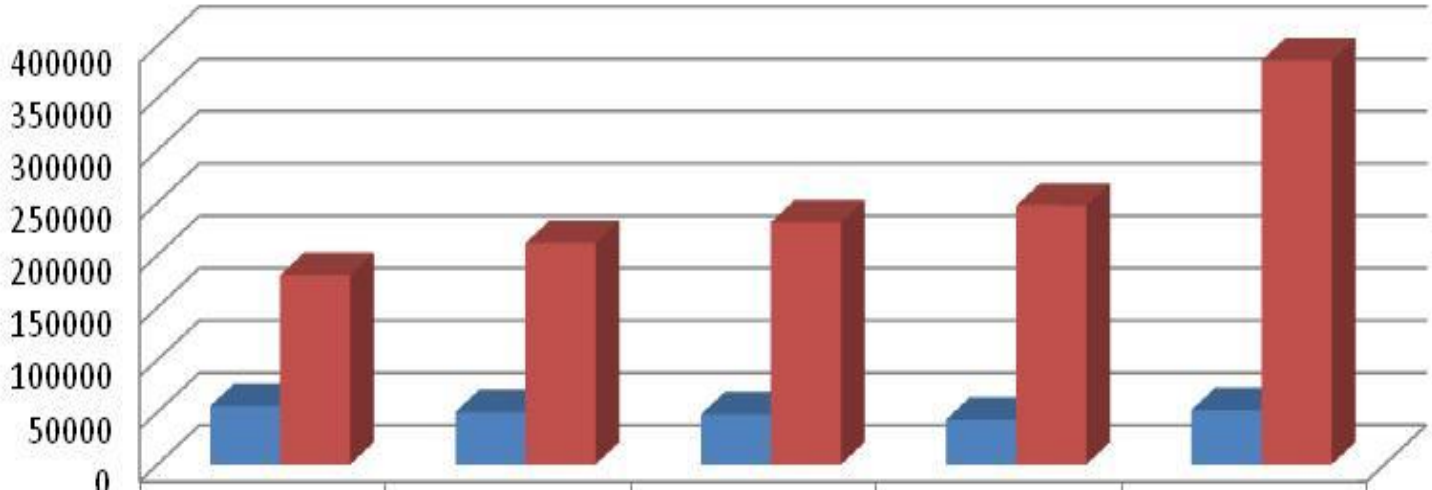
Source: Livestock Statistics, 2013

Table 2. Major Dairy Industries on Java and Their Main Products

Dairy Industry	Location	Products Manufactured
Frisian Flag Indonesia	West Java (Jakarta)	Liquid milk, Sweetened Condensed Milk (SCM), Milk powder
Indomilk	West Java (Jakarta)	Liquid milk, SCM, ice cream
Nestle	East Java (Pasuruan)	Condensed Milk, Milk powder
Ultra Jaya	West Java (Bandung)	Liquid milk, SCM, Milk powder
Sari Husada (Danone)	Central Java (Yogyakarta)	Liquid milk, yogurt, Milk powder
Greenfields	East Java (Malang)	Liquid milk
Garuda Food	West Java (Bogor)	Liquid milk
Cimory	West Java (Bogor)	Liquid milk, Yogurt
Diamond	West Java (Bekasi)	Liquid milk, Ice cream

Source : Dairy Industry Development in Indonesia, IFC, 2011

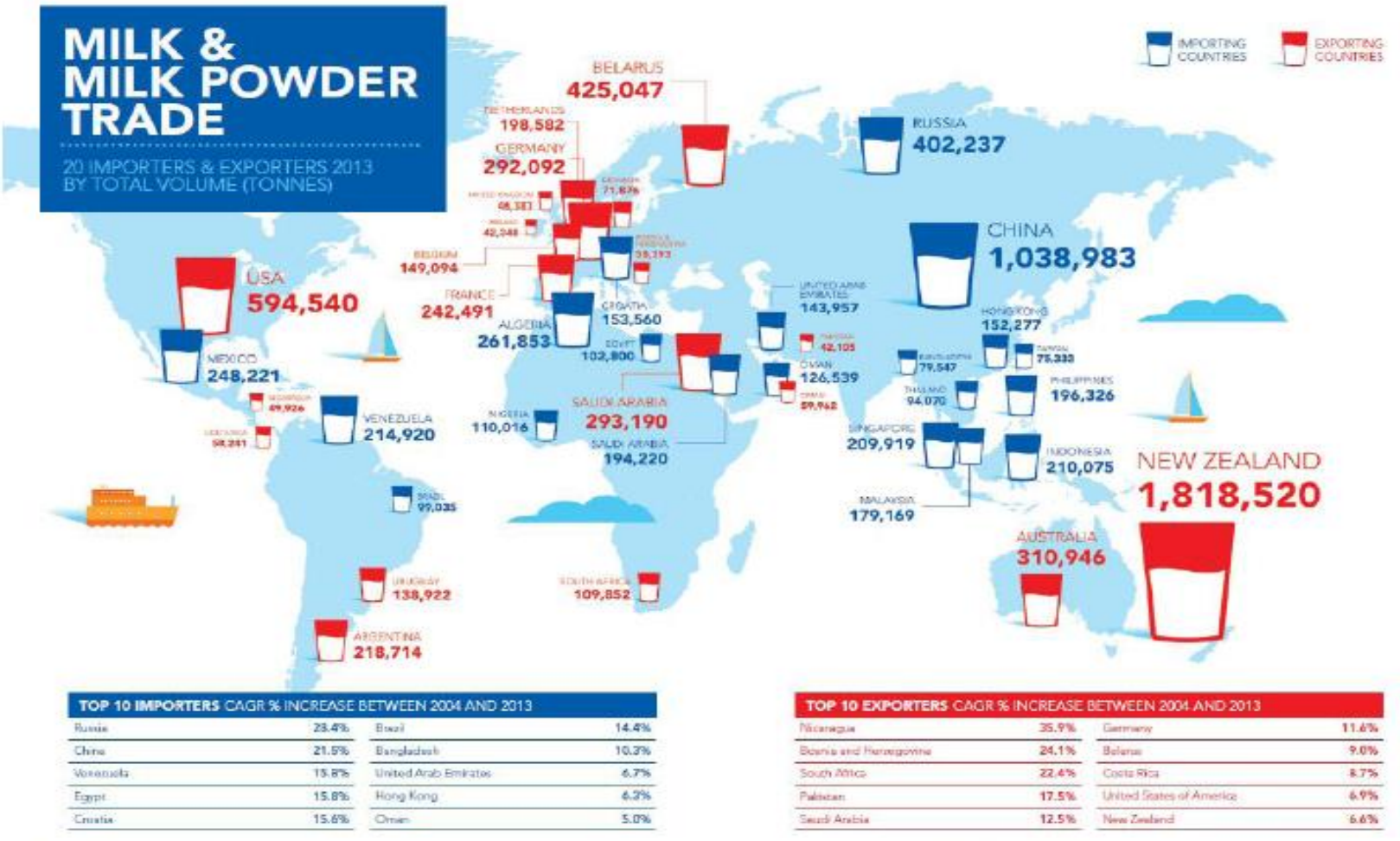
Figure 2. Milk Export and Import in Indonesia



	2008	2009	2010	2011	2012
Export (Tones)	55774	50190	47818	43123	52174
Import (Tones)	180933	211634	231396	247495	386116

Source: Livestock Statistics, 2013

Figure 3. Milk Importing and Exporting Countries



TOP 10 IMPORTERS CAGR % INCREASE BETWEEN 2004 AND 2013

Russia	23.4%	Brazil	14.4%
China	21.5%	Bangladesh	10.3%
Venezuela	15.8%	United Arab Emirates	6.7%
Egypt	15.8%	Hong Kong	6.3%
Croatia	15.6%	Oman	5.0%

TOP 10 EXPORTERS CAGR % INCREASE BETWEEN 2004 AND 2013

Nicaragua	35.9%	Germany	11.6%
Bosnia and Herzegovina	24.1%	Belarus	9.0%
South Africa	22.4%	Costa Rica	8.7%
Pakistan	17.5%	United States of America	6.9%
Saudi Arabia	12.5%	New Zealand	6.6%

Source: Tetra Pak Dairy Index Issue 7, September (2014)

Key Driving Forces in the Dairy Transformation

Key Driving Forces in Dairy Transformation: Demand Drivers (1)

- Increased demand for agricultural (food) products ➔ Population growth, income growth, increasing middle class, urbanization, longer life span and ageing population
- Diversification toward higher valued food ➔diet shift, changing consumer preferences (food quality, food safety and food attributes)
- Food spending is shifting from grains and staples to vegetables, fruits, meat, dairy, fish and processed foods

Key Driving Forces in Dairy Transformation: Demand Shifters(2)

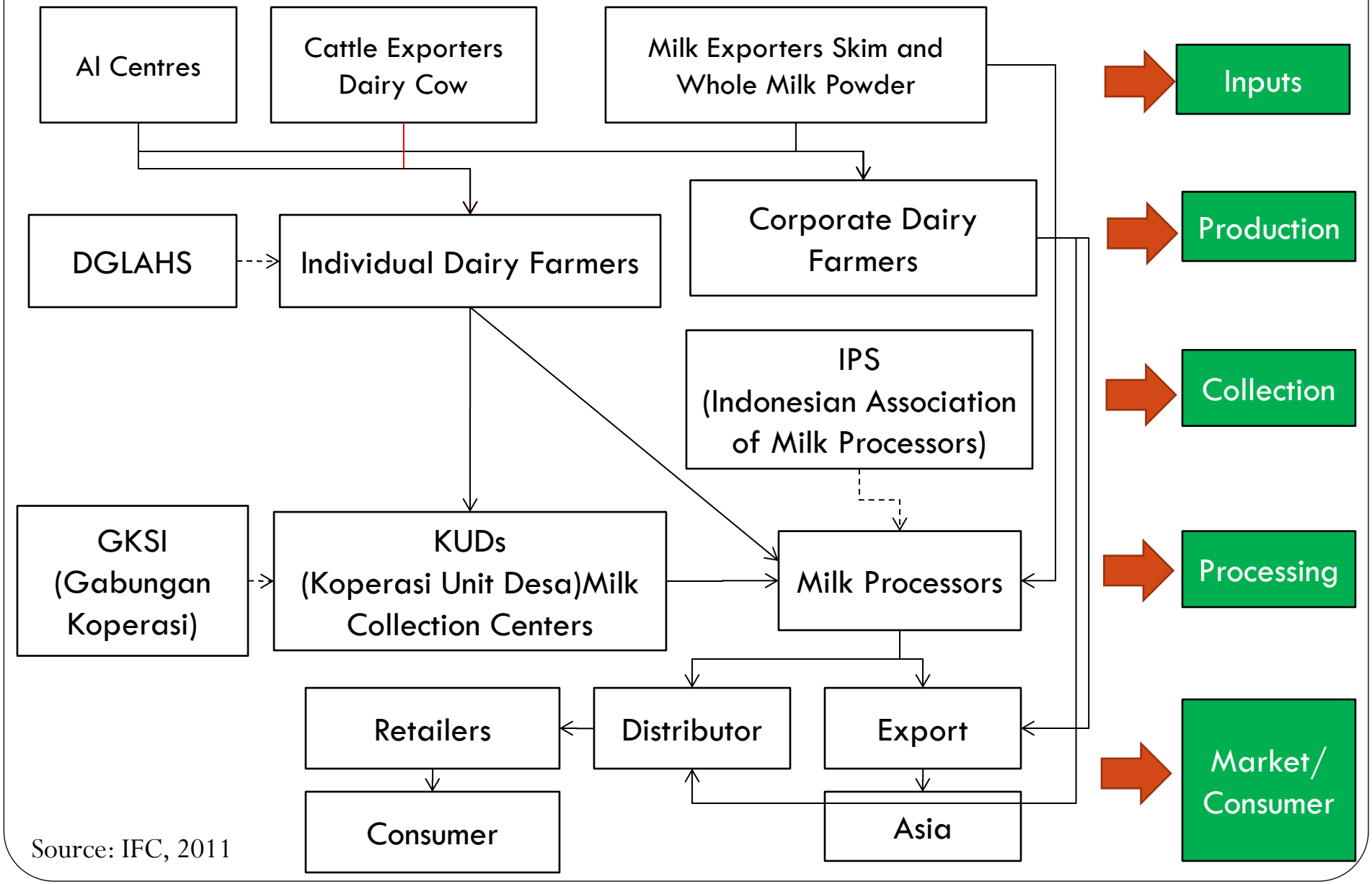
- Demand for ready-to-cook and ready-to-eat foods is also rising, particularly in urban areas.
- More emphasis on food security and improved nutrition

Key Driving Forces in Dairy Transformation: Supply Shifters

- Investment in agricultural research
- Value chain development
- Increase in scale of production and processing
- More emphasis on food security and improved nutrition
- Water and land scarcity
- Climate change
- Less market protection (WTO, FTAs)

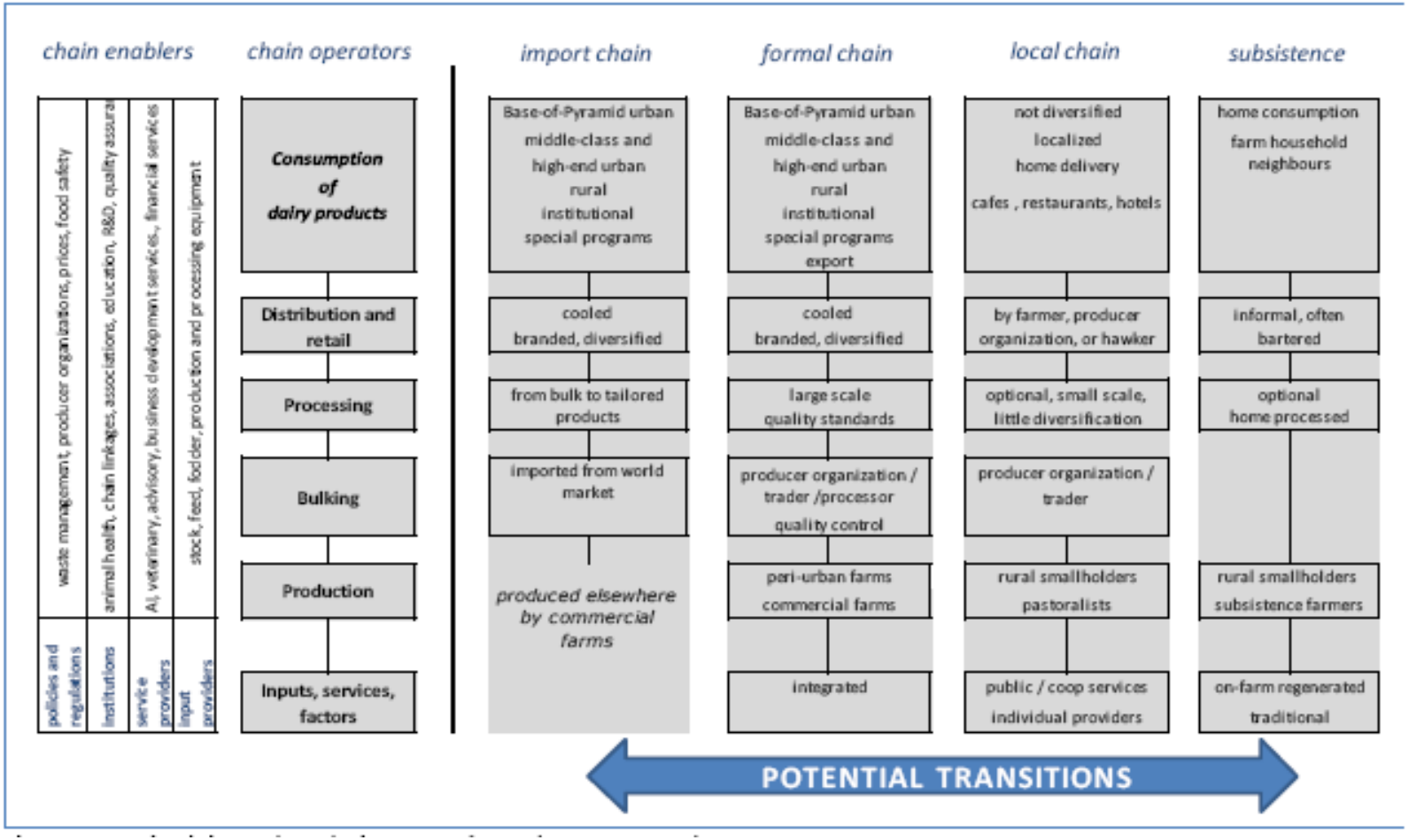
Challenges and Opportunities

Figure 4. Dairy Value Chain



Source: IFC, 2011

Figure 5. Main Dairy Value Chain Types



Source: van der Lee, 2014

Figure 6. Key sector constraints across the value chain

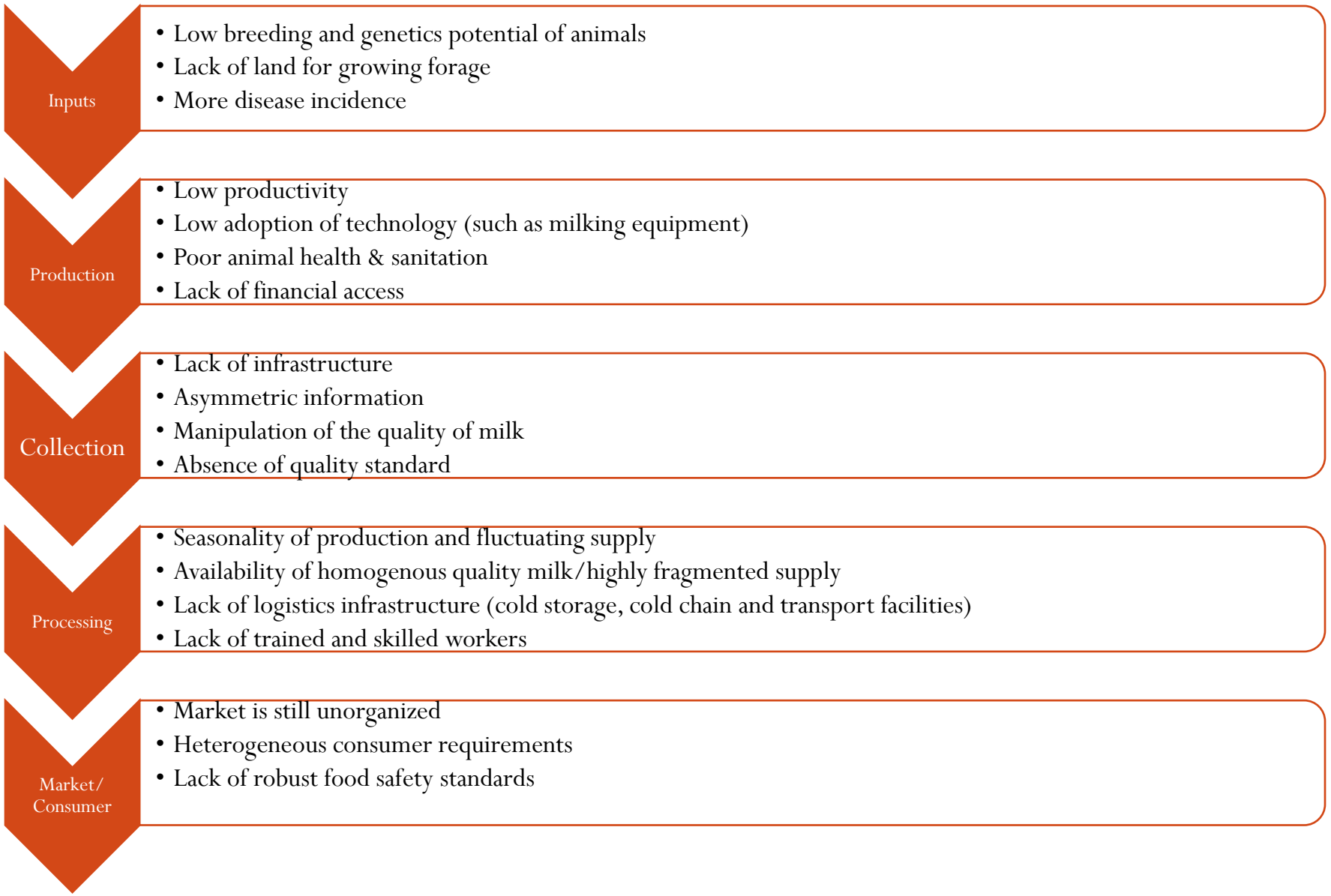


Table 3. Common constraints and opportunities in in dairy sector development

Constraints	Opportunities
Small farms and small volumes of raw milk supply	Strong market demand for milk: upscaling of farms
Underutilization of capacity of dairy plants	Start-up of professional processors
Inadequate transport facilities	Improve infrastructure: roads, transport and trade
Lack of testing facilities	Set up milk-testing laboratories
Insufficient cold-chain facilities	Investments in cold-chain equipment, storage and transport
Food safety and milk quality regulations absent or not enforced	Set up legislation and enforcement on food safety Quality assurance and quality-based payment systems
Weak cooperation within dairy chain	Set up institutions for collective improvement of quality and efficiency
Moderate technical and entrepreneurial skills	Training and education, Improve farmer entrepreneurship
Insufficient poor-quality fodder	Commercial feed and fodder supply with better inputs and services
Low reproduction rates	Improve young stock rearing Improve animal feed and supplements Improve animal health and veterinary services
Poor access to finance (& other services)	Improve finance facilities Improve regulations around collateral
Research and extension not tailored to needs of chain actors	Tailor-made practical training and extension Research and development, Training of trainers

Source: van der Lee and Westenbrink, 2014

Dairy Industry Development Models

1. Cimory Model
2. Nestle Model
3. PisAgro Model
4. Gapoknak Sugih Mukti Mandiri Model

Figure 7. Cimory Business Model

END USERS

Home Delivery

Giant

Indomaret

Alfamart

Agen Cimory

Cimory Restaurant

PT. Macrosentra Niagaboga

Yogurt

Susu Segar

Mayonaise

Keju

Cream Cheese

Bread

Mozarella

CIMORY

KUD Giri Tani

KUD Cipanas

KUD Sukabumi

KUD Kiya Citra

PT. Enopec

PT. Piramid Mulya Pac

PT. Christian Hansens

Anggota Koperasi

Anggota Koperasi

Anggota Koperasi

Supplier Gula

Supplier kemasan Yogurt

Supplier kemasan Susu

Supplier Bahan Pewarna

Source: IFC, 2011

Figure 8. Collaboration Nestle with Dairy Cooperatives

Farmers organized in Dairy cooperatives.
Nestle support to Cooperatives through either technical of financial assistance

Support to improve the milk supply chain (milk collection and procurement activities), and to strengthen farmers viability (milk quality, feed & fodder, animal health, biogas)

Source : Nestle, 2013

Figure 9. Nestlé Milk Sourcing

Third Party fresh milk supply = Dairy farmers + Dairy cooperatives + Dairy factory

Dairy Cooperatives
Loans & Training & Control
Payroll
(Milk Procurement)

Dairy Farmers
Loans & Training
(Dairy Development)

- Cooperatives with >35K dairy farmers
- Commercial farms

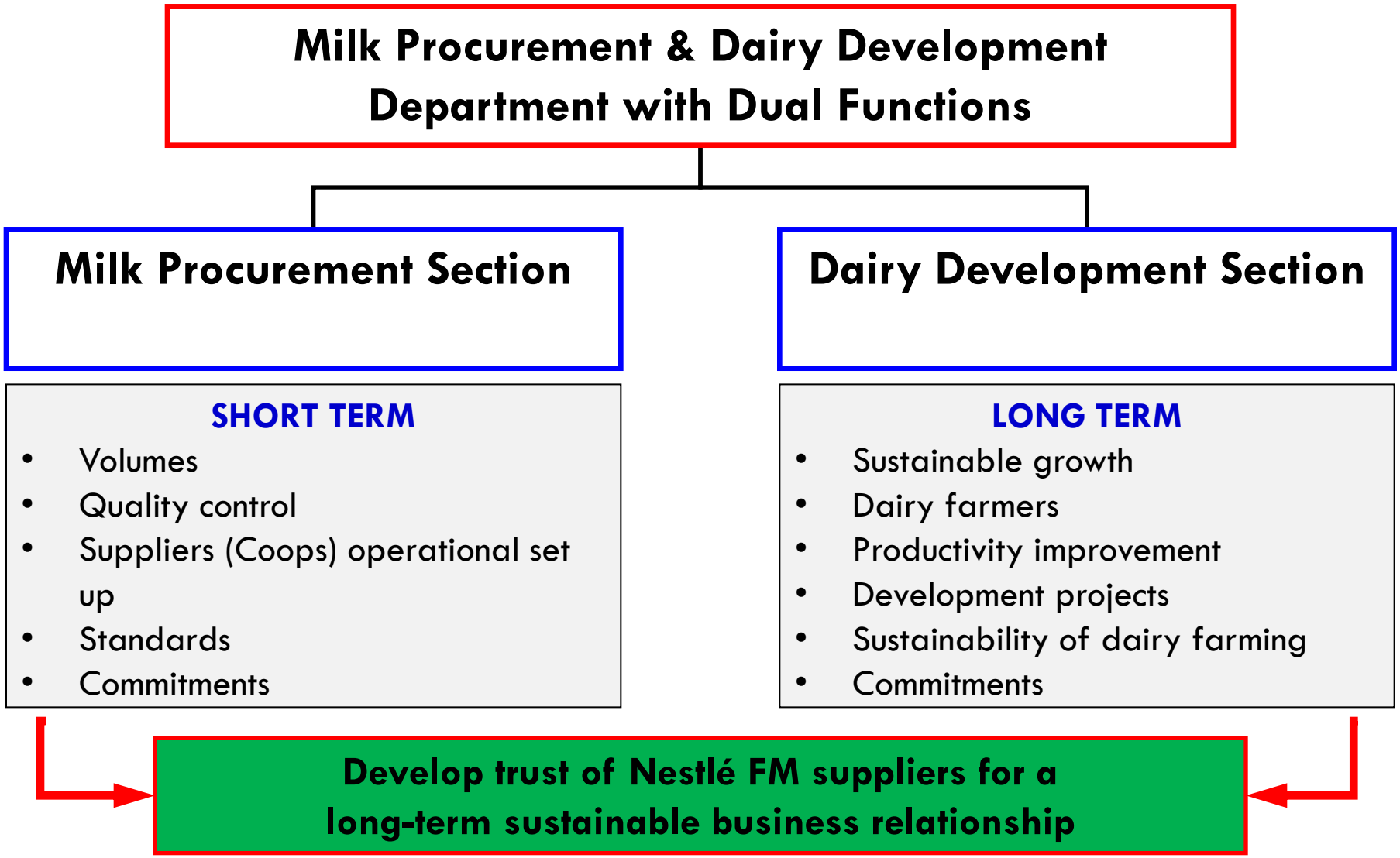
- >510 collection points
- >250 cooling centers
- >375 cooling units
- >85% direct cooling
- 2x collection/day

- Cooperatives owned
- 20-300 km distance to factory

- 24 hours fresh milk reception

Source : Nestle, 2014

Figure 10. Nestlé Milk Sourcing



Source : Nestle, 2014

Figure 11. Nestlé Milk Sourcing: CSV in Indonesia

3 major focus areas for long-term development

Technical support through a team of Field professionals with relevant operational background: animal husbandry, veterinary sciences, agronomy

Variety of improvement programs aiming at increasing long-term sustainability performance of dairy Cooperatives & dairy farmers

MILK PROCUREMENT

➔ Focus: milk collection operational set-up

➔ Objective: **fresh milk quality**

- Improving **operational standards** (Nestlé standards, SOPs)
- Quality based payment system (**TPC base**)
- Investment programs (**credits**)
- Regular supplier operation audits (**compliance** with Nestlé standards & requirements)
- Facilitate import of critical equipment (**cooling tanks**)
- Suppliers yearly **competition**

DAIRY DEVELOPMENT

➔ Focus: sustainability of dairy farming

➔ Objective: **cow productivity**

- **Feed & fodder**: cultivation of improved fodder; silage; cattle feed formulation
- **Animal health**: mastitis prevention; deworming
- **Herd management**: recording (to keep track of performance of dairy cattle population); water availability
- **Competitiveness**: establish a network of dairy farmers for monitoring of cost of production (supporting pricing decision making process)

ENVIRONMENT

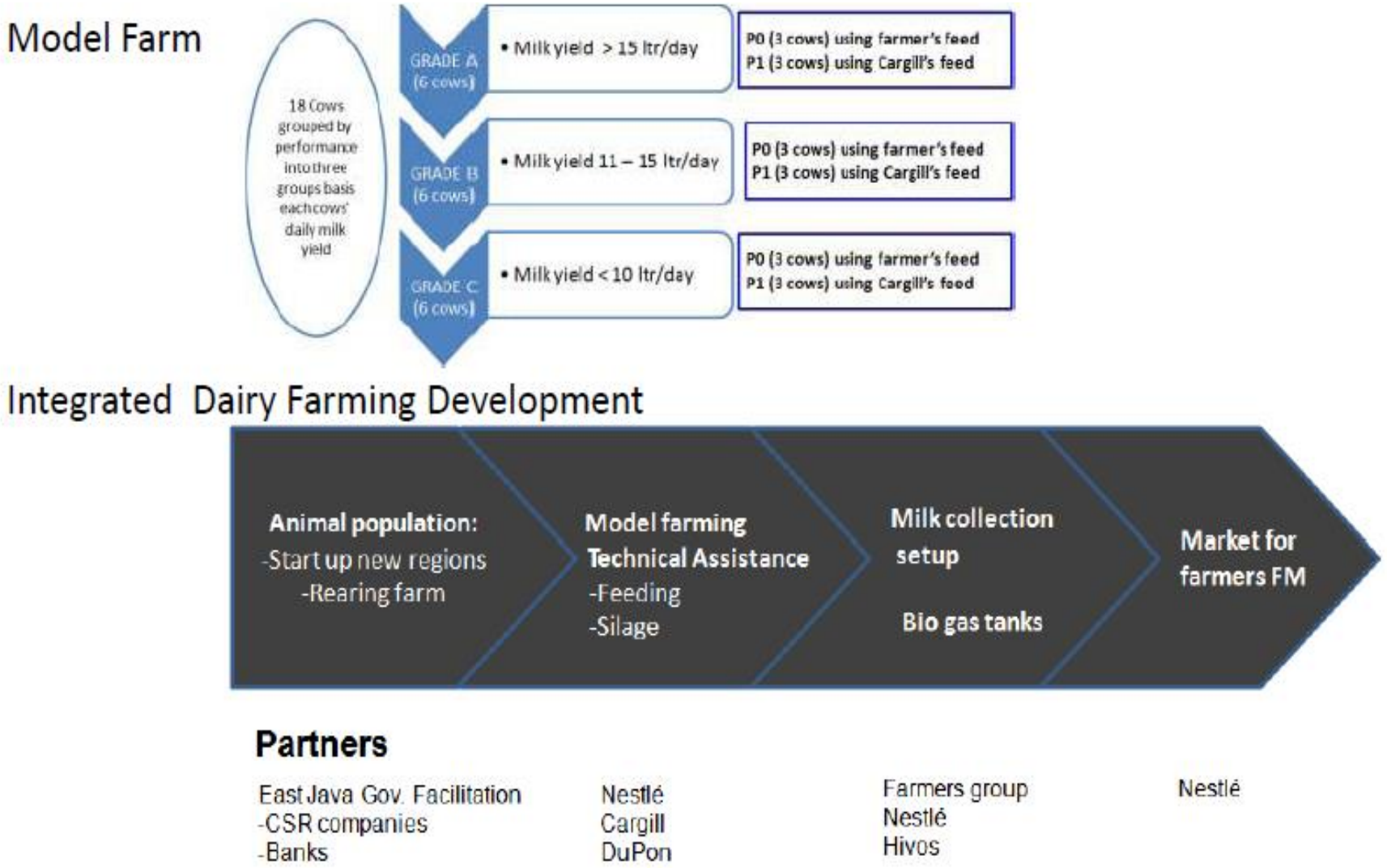
➔ Focus: water protection & renewable energy

➔ Objective: **biogas**

- Promotion of **biogas**
- Joint project with HIVOS, set-up of units in large scale
- Improvement of **cattle sheds**
- Investment programs

Source : Nestle, 2014

Figure 12. PisAgro Business Model



Source: WEF, 2014

Partners in Creating Shared Value

- East Java Government
- PT Nestlé Indonesia
- Dairy Cooperatives & Dairy Farmers
- Banking sector
- Cattle Feed Industry (Cargill Animal Nutrition Indonesia)
- Fodder Industry (DuPont Indonesia)
- Hivos

Figure 13. Business Model Gapoknak Sugih Mukti Mandiri Subang Winner of 2014 Competitive Product Award in Livestock Products, Ministry of Agriculture 2014

Products :
1. Liquid Milk *(Pasteurisasi)*
2. Yogurt & Yogurt Sticks
3. *Kerupuk Susu*
4. *Puding*

Gapoknak is able to pay higher prices to dairy farmers as its business model is based on the production of higher value added dairy products

Terimakasih

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