Introduction to Project Objective 1 of the ACIAR IndoDairy Project

Arief Daryanto, PhD
Senior Lecturer, IPB Business School

Inception Workshop on Improving Milk Supply, Competitiveness and Livelihoods in Smallholder Dairy in Indonesia

IPB International Convention Center,

Bogor 17 November 2016

Presentation Snapshot

- Overview of the Indonesian Dairy Sector
- Key Sector Constraints Across the Value Chain
- Research Objective and Objective 1 of the IndoDairy Project.
- Activities and Outputs/Milestones for the Objective 1

1. Overview of the Indonesian 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 525,000 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 heads. However, with the high level of dairy cattle culling in 2013, in 2014 the Indonesian dairy cattle population declined to 395,000 heads.
- High level of dairy cattle culling in 2013 decreased the number of dairy cattle significantly from 611,939 heads in 2012 to 444,266 in 2013. However, in 2014, the population increased again to 502,516 and 525,171 head in 2015.

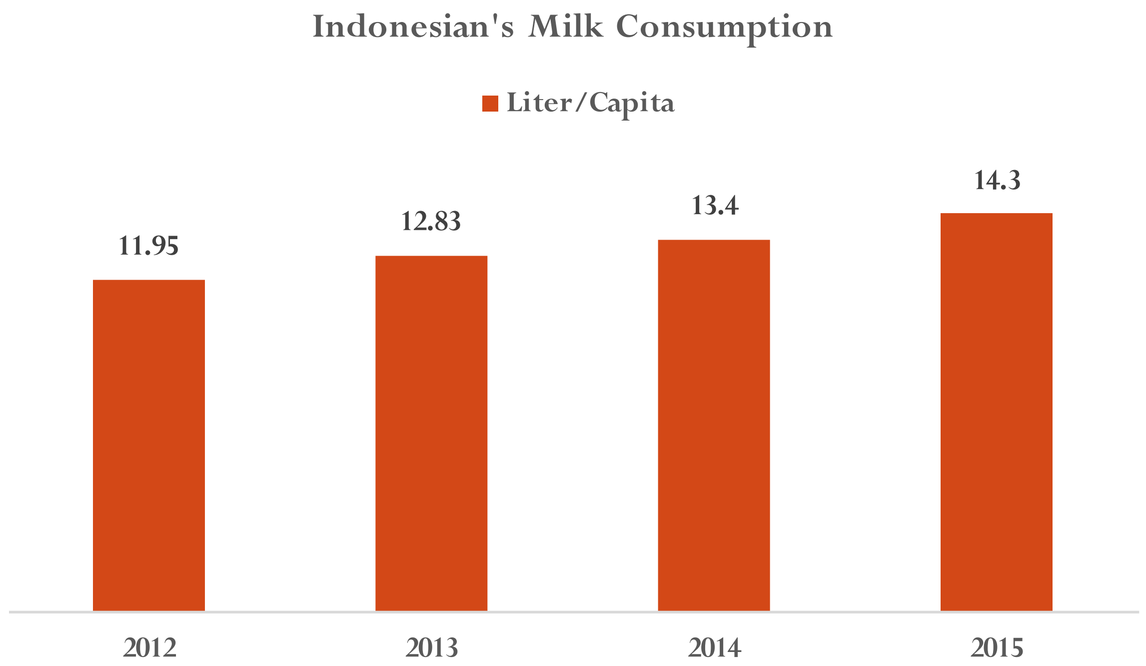
Overview of the Indonesian Dairy Sector

- 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 approximately 57% of all milk production. West Java is second largest dairy producer accounting for around 30%.
- 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 (USDA, 2014)
- 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 : USDA Foreign Agricultural Service 2016


Malaysia: 50.9 L


The Philippines: 22.1 L

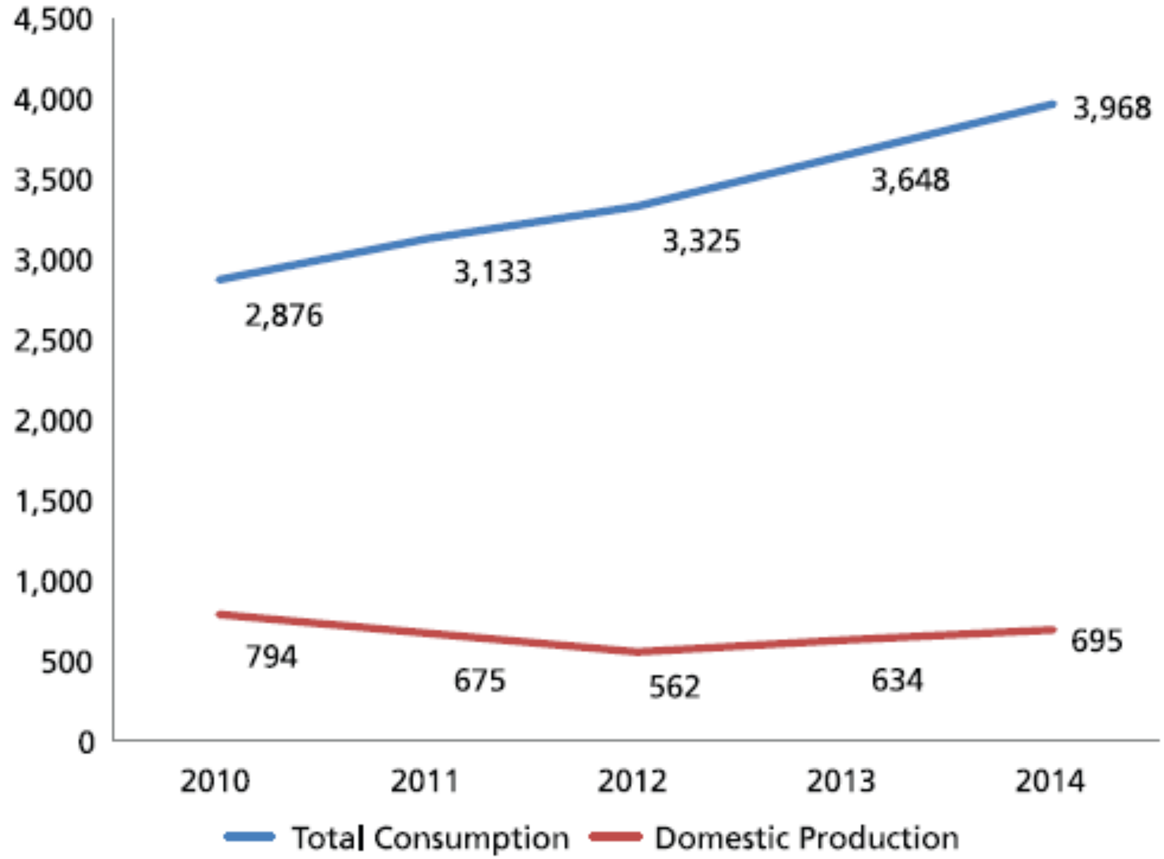

Thailand: 33.7 L


Vietnam: 14.3 L


Singapore: 44.5 L


India: 47.1 L

Figure 2. Indonesia's Dairy Consumption vs Domestic Production, MT



Source: DBS, 2016

Table 1. Dairy Cows Population and Milk Output by Main Provinces, 2015

	Dairy Cows Number	Dairy Cows Percent	Milk Production Tones	Milk Production Percent
East Java	253,830	48	426,557	53
Central Java	123,365	23	99,577	12
West Java	135,245	26	260,823	32
Other	12,731	2	18,406	2
TOTAL	525,171	100	805,363	100

Source: Livestock Statistics, 2016

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

2. Key Sector Constraints Across the Value Chain

Figure 3. Key sector constraints across the value chain

Inputs

- Low breeding and genetics potential of animals
- Lack of land for growing forage
- More disease incidence

Production

- Low productivity
- Low adoption of technology (such as milking equipment)
- Poor animal health & sanitation
- Lack of financial access

Collection

- Lack of infrastructure
- Asymmetric information
- Manipulation of the quality of milk
- Absence of quality standard

Processing

- Seasonality of production and fluctuating supply
- Availability of homogenous quality milk/highly fragmented supply
- Lack of logistics infrastructure (cold storage, cold chain and transport facilities)
- Lack of trained and skilled workers

Market/ Consumer

- Market is still unorganized
- Heterogeneous consumer requirements
- Lack of robust food safety standards

3. Research Objective 1 of the IndoDairy Project.

Research Objective for Objective 1

- Objective 1: Identify and recommend strategies and policies to support development of sustainable, profitable and smallholder-inclusive dairy supply chains in North Sumatra and West Java.

Research Questions

1. What market and investment opportunities are most likely to lead to the development of new and sustainable smallholder dairy supply chains in North Sumatra?
2. How can public and private partnerships be improved to enhance dairy development programs particularly with respect to increased live imports?
3. What are the practical policy lessons that can be derived from this research and how should stakeholders collaborate in ways that will benefit smallholders and increase spill-overs?

Activities and Outputs /Milestones

No. of Activities	Activity	Output / Milestone	Application of Outputs
1.1	Development and annual review of business guidelines and opportunities for heifer importation from Australia to Indonesia	Guidelines for sustainable public private joint ventures for dairy heifer importation to be reviewed annually;	Increased heifer numbers will contribute to overall project objectives
	Sub-activity 1.1.1. Re-engage partners, including processors, KUDs and government to update scope of activities .	A completed trip report	Findings from trip will provide insight into the design of activities and partners

Activities and Outputs/Milestones

No. of Activities	Activity	Output / Milestone	Application of Outputs
1.2	A whole-of-chain analysis of the North Sumatra and West Java dairy industries **Sub activities include:** ➢ Development of a tablet based application using CommCare software to collect baseline and monitoring data at the household level. ➢ Farmer survey in North Sumatra ➢ Value chain analysis in North Sumatra and West Java including semi-structured interviews and focus group meetings with processors, retailers, cooperatives (in West Java), and other relevant bodies.	1. Data set on farmers' production practices based on purposive sampling in North Sumatra. 2. A tablet-based application to be used by research team for data collection for the baseline survey and ongoing monitoring 3. Data sets and notes of results of interviews and focus group discussions with cooperatives (in West Java), processors and retailers in West Java and North Sumatra 4. Detailed report highlighting the key findings from dairy value chain analysis in North Sumatra and West Java. 5. The report will address research questions posed under Objective 1 including market and investment opportunities which will lead to new and sustainable smallholder dairy supply chains.	Data used for analysis in Activity 1.4 and 1.5.

Activities and Outputs/Milestones

No. of Activities	Activity	Output / Milestone	Application of Outputs
1.3	Evaluation of regional dairy industry development policies in North Sumatra and West Java	1. Information and data from government agencies on existing dairy industry development programs. 2. Detailed report on the effectiveness of regional dairy industry development policies and strategies to improve public and private partnerships to enhance dairy development programs.	Data used for analysis in Activity 1.4 and 1.5. Ideas for policymakers and stakeholders on how to optimise the targeting, monitoring and evaluation of dairy development programs.
1.4	Identify existing and future market opportunities for the North Sumatra dairy sector	Report on existing market dynamics and future opportunities for the dairy sector in North Sumatra.	Data used for analysis in Activity 1.5. Ideas for smallholder and processors to better meet consumer demand and, therefore, increase profitability.

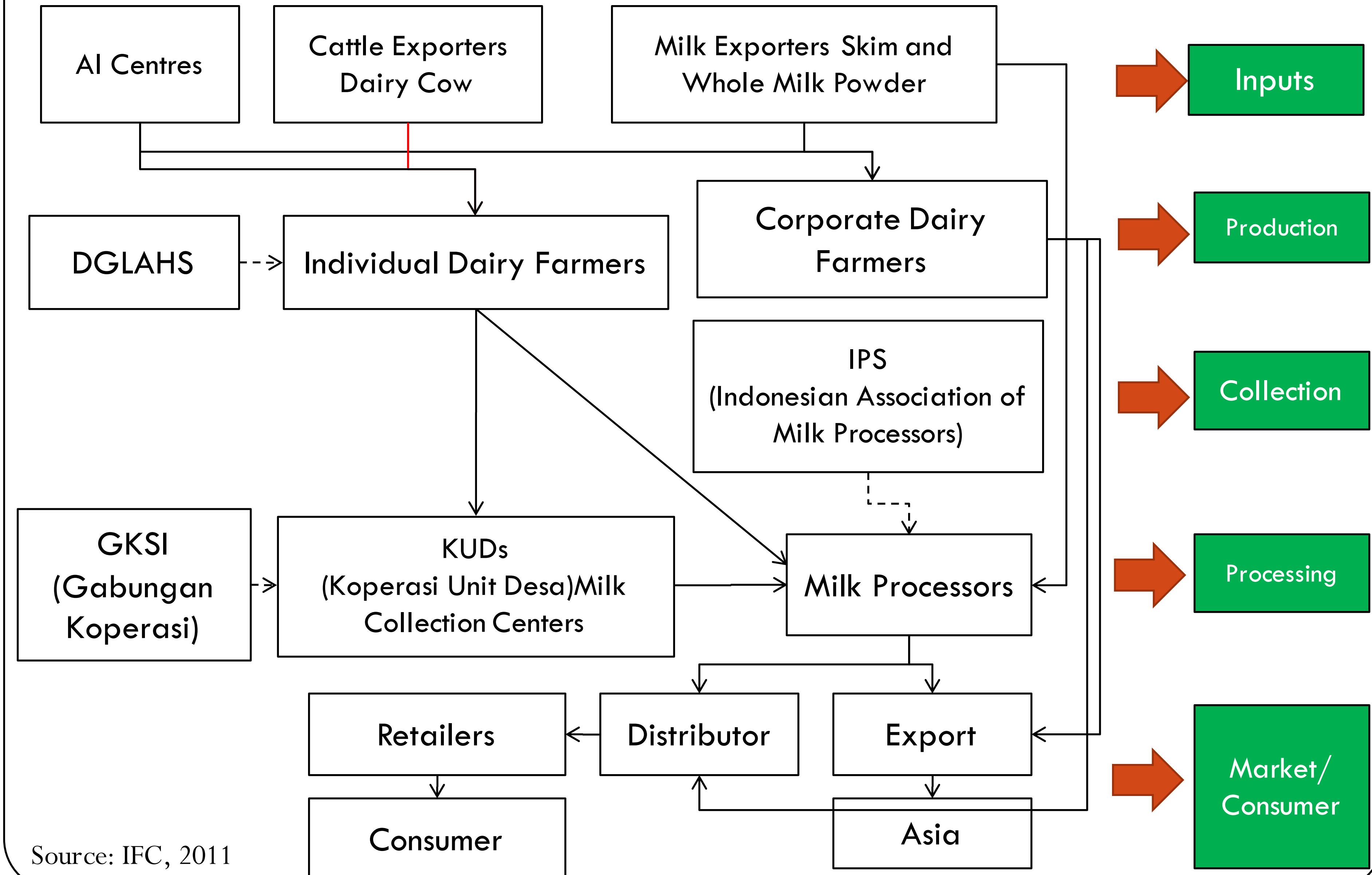
Activities and Outputs/Milestones

No. of Activities	Activity	Output / Milestone	Application of Outputs
1.5	Identify whole-of-chain opportunities for industry and government in North Sumatra and West Java	Report and/or chapter on whole-of-chain opportunities for industry and government in North Sumatra and West Java including options to promote improved economies of scale and efficiency in the smallholder-dominant dairy production sector. These may include changes in farmer organisation, industry restructuring and structural re-adjustment approaches.	Ideas for policy makers to investigate the competitive capacity of North Sumatra dairy supply chains and potential policies to optimise industry development in North Sumatra and West Java.

Activities and Outputs/Milestones

No. of Activities	Activity	Output / Milestone	Application of Outputs
1.6	Encourage development, policy dialogue and industry advocacy in ways that benefit smallholder dairy farmers and improve research capacity of lead agencies	1.6.1. Participation and contribution of local researchers; 1.6.2.Conference papers prepared by Indonesian researchers; 1.6.3. Report on inception workshop 1.6.4. Report on Annual workshop – Year 1 (e.g. survey design training); 1.6.5. Report on Annual Workshop – Year 2 (e.g. statistical analysis training); 1.6.6. Report on result dissemination workshop in North Sumatra and West Java; 1.6.7. Report on final workshop	Results of the projects are reviewed by relevant stakeholders and have potentials to be implemented by smallholders, industry bodies and policy makers.

Figure 4. Dairy Value Chain



Source: IFC, 2011

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

Constraits	Opportunities
Small farms and small volumes of raw milk supply	Strong market demand for milk: up scaling 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 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 tratners

Source: van der Lee and Westenbrink, 2014

Terimakasih

E-mail: adaryant@icloud.com