



Competitive Dairy Value Chains in Southeast Asia

Dairy Expert Roundtable Meeting
December 8 & 9, 2010,
Muak Lek, Thailand

Editors:

Linda Haartsen

Jan van der Lee

Bram Wouters

Part II: PowerPoint Presentations



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The organization of the Dairy Expert Meeting was a joint effort. The following organizations worked together with Wageningen UR to make the meeting a success:



Competitive Dairy Value Chains in Southeast Asia – Part II

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Editors:

Haartsen, L.

Lee van der, J.

Wouters, A.P.

January 2011

Centre for Development Innovation, Wageningen University & Research centre

The regional Dairy Expert Roundtable Meeting on “Competitive Dairy Value Chains in Southeast Asia” provided a forum for participants from six Southeast Asian countries to discuss how dairy value chains in this region can become more competitive and sustainable. The demand for dairy products in these countries is increasing steadily. Countries rely more and more on imports. Inefficiencies in the chain, low productivity, quality issues, as well as institutional obstacles make locally produced dairy products less competitive. International developments, national policies and experiences, lessons learned, and challenges in the value chain were presented and discussed during the meeting. Many countries in the region face similar challenges. Solutions depend much on the local context. Better exchange of experiences and knowledge among the Southeast Asian countries can contribute to more efficient local dairy value chains.

This document, Part II, contains the PowerPoint presentations from the workshop and is an annex to the main report of the meeting.

Projects BO-10-010-104, 'International Centre for Cattle Husbandry', and BO-10-010-117, 'Sustainable dairy chains'

This research project has been carried out within the Policy Supporting Research for the Ministry of Economic affairs, Agriculture & Innovation, Theme: Chains of sustainable products, cluster: International Cooperation.

Photos

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Competitive Dairy Value Chains in South East Asia
Dairy Expert Round Table Meeting
Muak Lek, Thailand, December 8 & 9, 2010

Mr. Bram Wouters
Wageningen UR Livestock Research

Content of the presentation

- Introduction
- Some characteristics dairy production in SE Asia
- World wide drivers and trends and their implications for South East Asia
- Conclusions




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- Introduction
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General characteristics in SE Asia

- No long tradition in milk production and dairy consumption
- Milk mainly produced by small holders
- Industrialized milk processing based for a large part on import
- Formal and informal marketing channels
- Level of market protection and support of government varies



Small scale dairy farm Indonesia




Medium scale dairy farm in Thailand

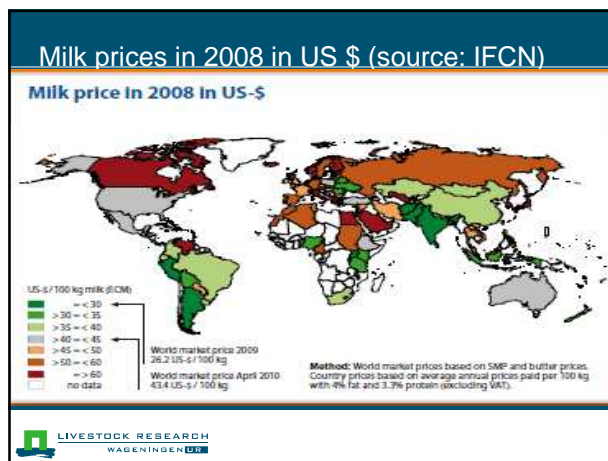





Some figures (IFCN, 2010)

	Milk Product. * 1000 t	Cons. L per capita/year	Milk price Farmers US \$/ litre	Farmers share of cons. price
Thailand	830	20	0.47	44
Indonesia	670	10	0.37	--
Malaysia	60	34	0.58	30
Vietnam	27	11	0.43	41
Philippines	14	14	0.54	38

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- ### World wide drivers for dairy development
- **Increased demand for dairy products**
 - Population growth
 - Income growth & urbanization → changing food patterns and supermarkets
 - **National interests**
 - Food security
 - Import substitution or export (foreign exchange position)
 - Diversification agriculture
 - **Rural development**
 - Food security and improved nutrition
 - Income generation & extra employment opportunities
 - Regular income source for daily needs
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Dairy trends – Policy related trends

- Less market protection (WTO, FTA's)
 - >>more fluctuating world market prices:

World market price
 2009: 26 US\$/ 100 kg
 April 2010: 43 US\$/ 100 kg

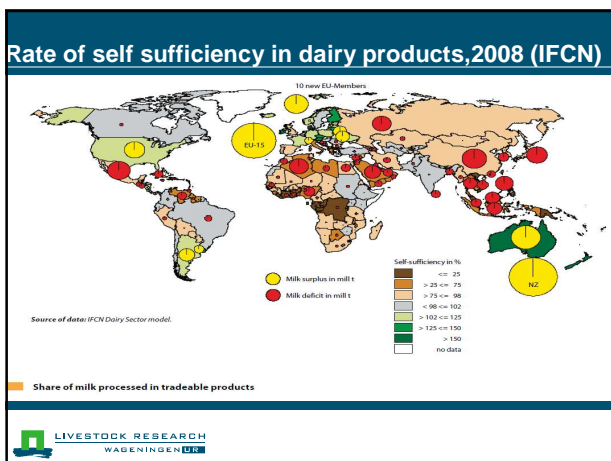
- More emphasis on self-sufficiency in food
- Emphasis on sustainability (climate change, energy)
- Less government support- privatization of services

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Dairy trends – Policy related trends

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Sustainability of dairy value chains

People, Planet and Profit (3P):

- **Social** sustainability: People
- **Environmental (ecological)** sustainability: Planet
- **Economic** sustainability: Profit

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Dairy trends – Policy related trends

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What are the implications for South East Asia?

Less market protection- Issues & options

Issue:

- Level of market protection decreases due to FTA's

Options:

- Create a more competitive local chain
 - Lower cost price (feeding costs)
 - Increasing scale of production (requires more land)
 - Higher chain efficiency (transaction costs, quality)
 - More value out of local milk: branding of "fresh" milk

Less government - Issues & options

Issues:

- Privatization of services
- Transition of government role from actor to facilitator, regulator and supervisor

Options:

- Capacity building private sector to take over services
- Define responsibilities and roles of government/private sector
- Development of government instruments to facilitate

Improving Sustainability- Issues and options

■ **Social issues:**

- Inclusion of small holders into modern dairy chains
- Animal welfare: heat stress, housing

Options

- Development of value chains, producers organisations
- Improvement of farm management and farm designs

■ **Ecological issues:**

- Nutrient flows and recycling (waste management)
- Higher productivity and better use of resources (feed, soil)

Options:

- Improvement of farm management

■ **Economic issues: competitiveness/ profitability**

Options:

- Lower cost price and higher efficiency at farm level and in chain

Manure handling needs improvement



Dairy Trends- Market

■ **Increase in scale of production and processing**

■ **Value Chain Development**

- More value out of milk,
- Vertical integration: from farm to supermarket

■ **Emphasis on food safety and standards**

Increase scale of production in Netherlands

Year	Netherlands 1970	Netherlands 2007
Farms with dairy cows	116,000	21,000
Total number of cows	1,900,000	1,400,000
Number of cows per farm	16	65
Area of grassland + forage crops per farm (Hectares)	13	39

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Dairy Trends- Market

- Increase in scale of production and processing
- Value Chain Development
 - More value out of milk,
 - Vertical integration: from farm to supermarket
- Emphasis on food safety and standards

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Value chain development means:

- Taking the market and/or development of the market as starting point
- Cooperation and coordination among actors in the chain to increase added value and quality
- Taking sustainability as a condition for development
- Adopting an integral approach when developing the chain
- Taking as starting point the development stage at local level

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Value chain development – Issues and options (1)

Issues:

- Distribution of added value in the chain
- Lack of coordination, cooperation in the chain
- Low efficiency-reduction of transaction costs
- Input and service provision to farmers

Options

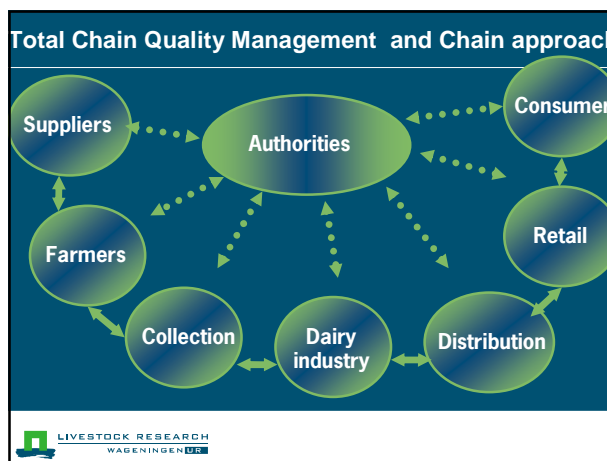
- Improve the organisational level of actors
- Develop better linkages among actors in the chain
- Improvement of milk collection systems

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Dairy Trends- Market

- Increase in scale of production and processing
- Value Chain Development
 - More value out of milk,
 - Vertical integration: from farm to supermarket
- Emphasis on food safety and consumer

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Food safety – Issues and options (2)

Issues:

- Improvement of raw milk quality and quality control at different stages in the chain

Options:

- Quality based payment systems
- Improvement of farm management and advise/services to farmers
- Self regulation of quality control with supervision of government

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Which approach to take for development?

Lessons learnt from other countries/ experiences indicate:

- Dairy development needs an **integrated approach**
 - For example: a value chain approach
- Possible options for development should take into account the **local context**
- **Stepwise development** is more sustainable

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Conclusion

- Dairy development with a value chain perspective opens opportunities to address issues in an integrated way
- Development of a value chain approach will lead to more cooperation, quality improvement and added value
- A value chain approach could lead to better inclusion of small holders in modern chains
- Dairy production in SE Asia will have a future BUT requires more competitive and sustainable milk production and a good enabling environment

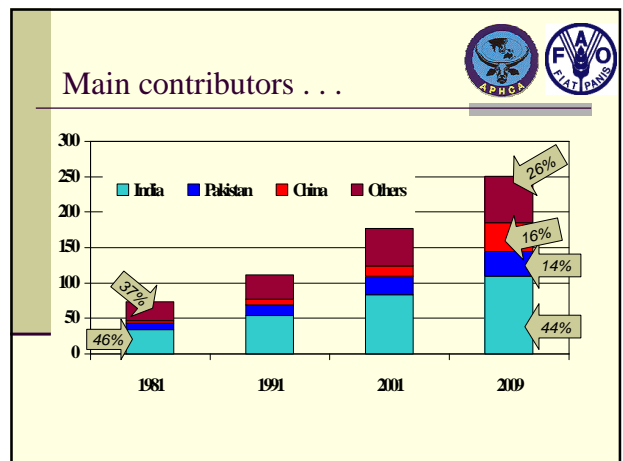
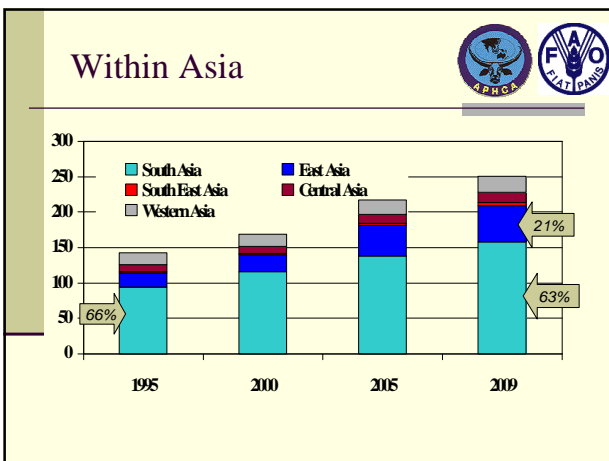
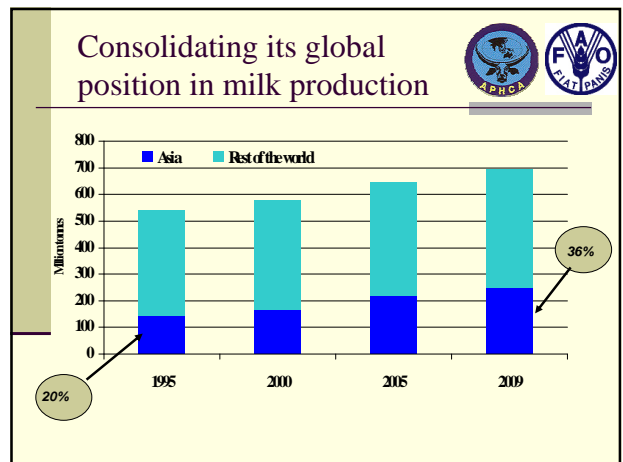
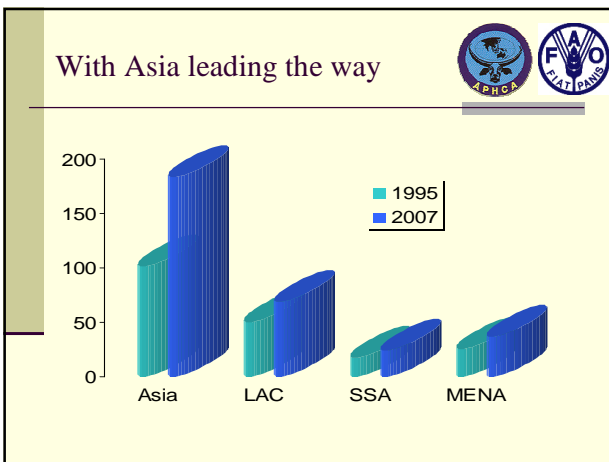
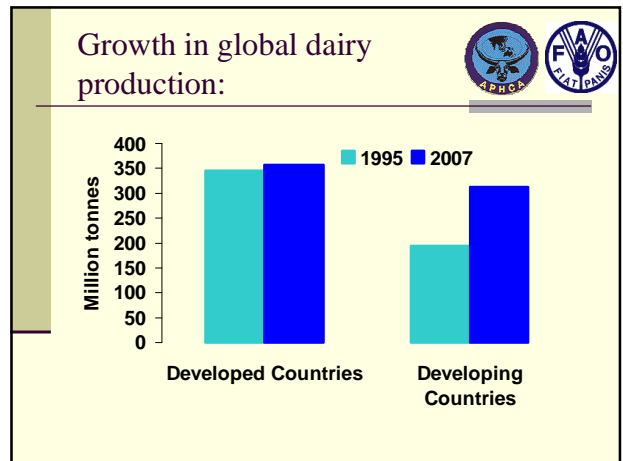
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Thank you for your attention

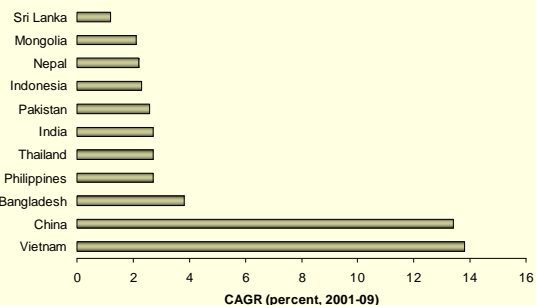
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Dairying in Asia:
Opportunities, challenges and some lessons

Vinod Ahuja
Livestock Policy Officer
Food and Agriculture Organization of the UN
Regional Office for Asia and the Pacific
Bangkok



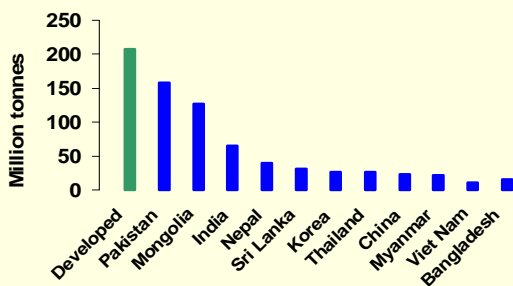
But wide range of growth rates . . .



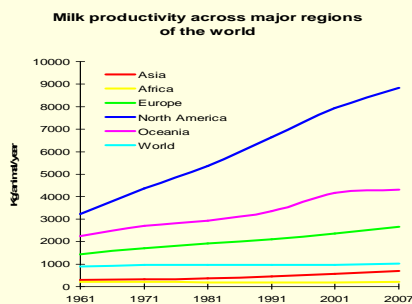
Consumption constantly outpacing production



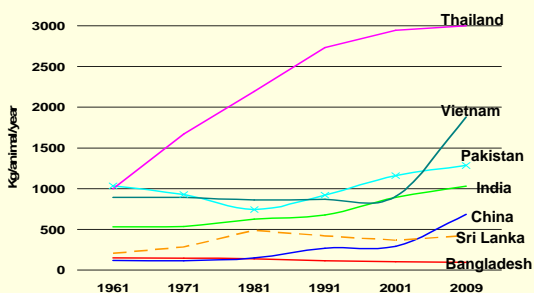
Yet tremendous room for consumption growth



What about productivity?



Wide variation across countries



Huge opportunities for

- Productivity gains
- Quality gains
- Substituting imports
- Spreading risks, improving competitiveness
- Protecting environment through mixed/integrated farming
- Nutrition, income, jobs . . .

Changing production and market landscape



- Continuing strong positive outlook for global dairy industry but increased volatility in international prices
- Rapidly declining common resource base and growing feed costs
- Increasing environmental concerns and enforcement
- Increased consumer demand for food safety, convenience, quality
- Growing intensity and pressure to intensify and scale up livestock systems for higher outputs per unit of land/water/labour
- Despite rapid growth and scaling up smallholder continue to produce over 90 percent of local milk marketed in Asia

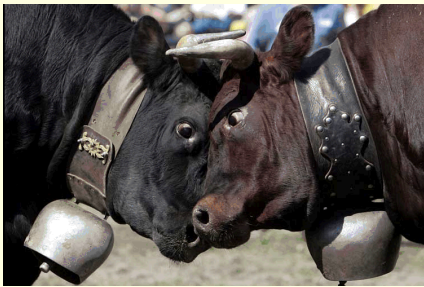
How do small producers feature in various countries?



- India:** 70 million households have dairy cattle, 52 million linked to smallholders (13 million to coops).
- China:** 2 million dairy farms in 2005 with farms < 20 cows accounting for 65% of milk production.
- Philippines:** 13,000 families engaged in smallholder dairy with employment of 17,000.
- Pakistan:** 55 million smallholders
- Mongolia:** 2 million farmers in 2006 (80% hold dairy cattle).
- Sri Lanka:** 70% of 3.5 million smallholder own dairy cows.
- Bangladesh:** 80 million households are smallholder dairy farmers.

Smallholder dairy critical to rural sectors

Where do we go from here?



Lessons learned case studies and regional strategy and investment plan for smallholder dairy development in Asia

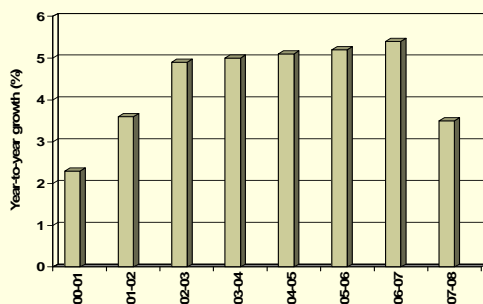


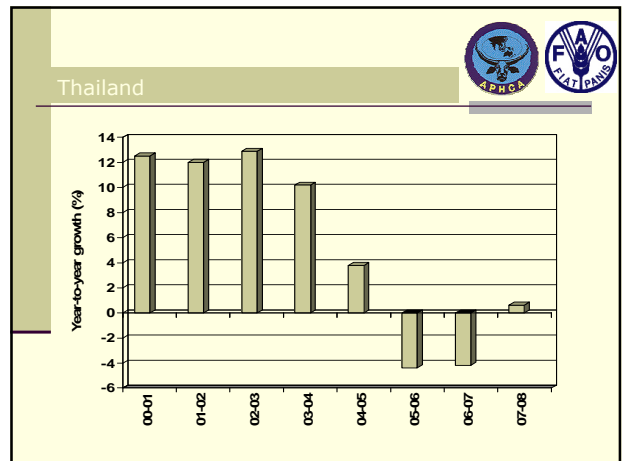
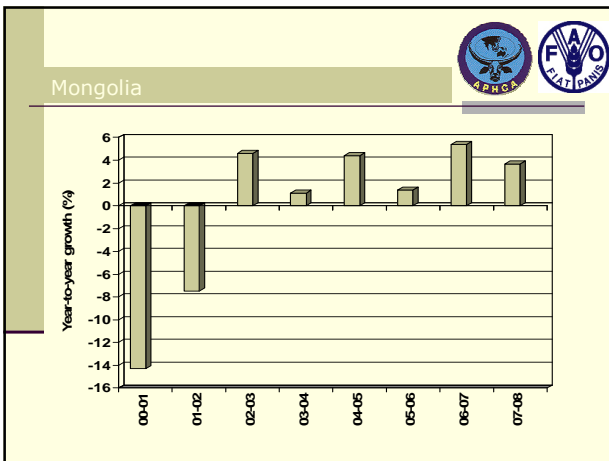
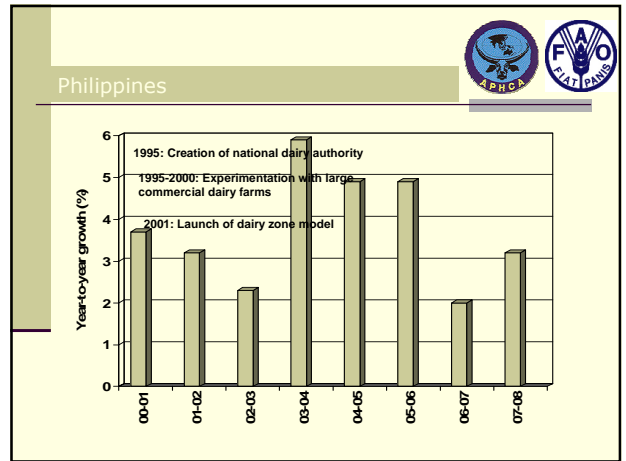
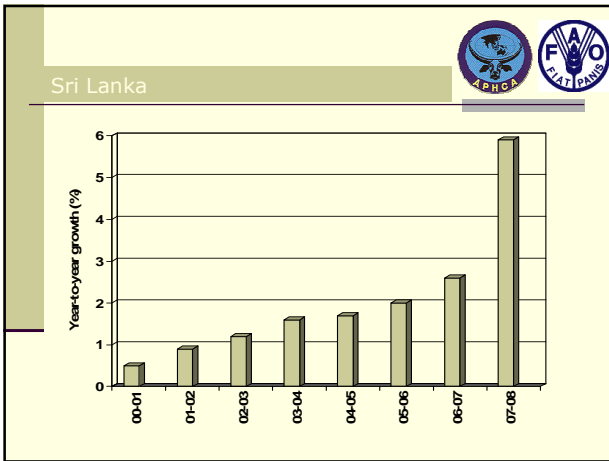
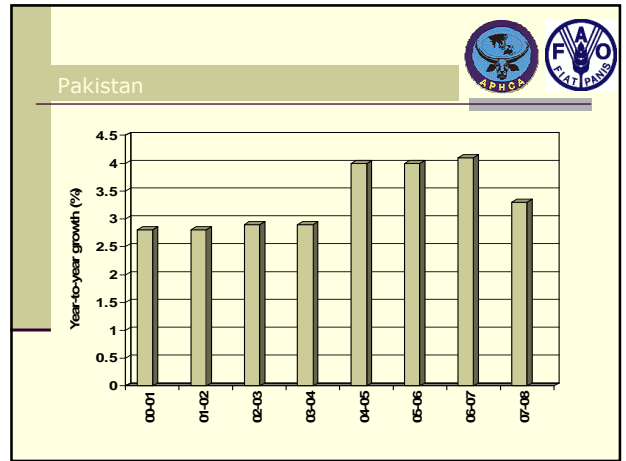
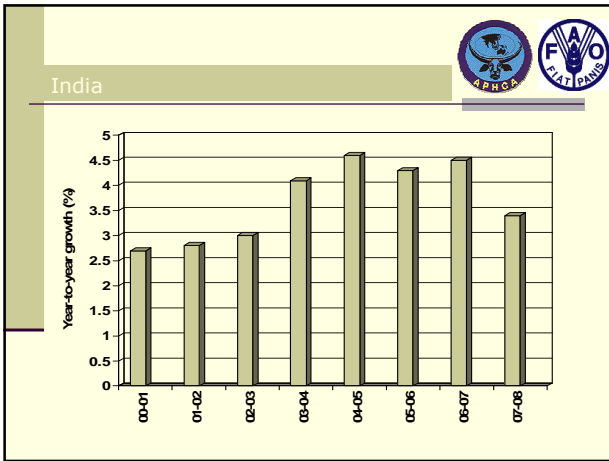
What are some of the models?

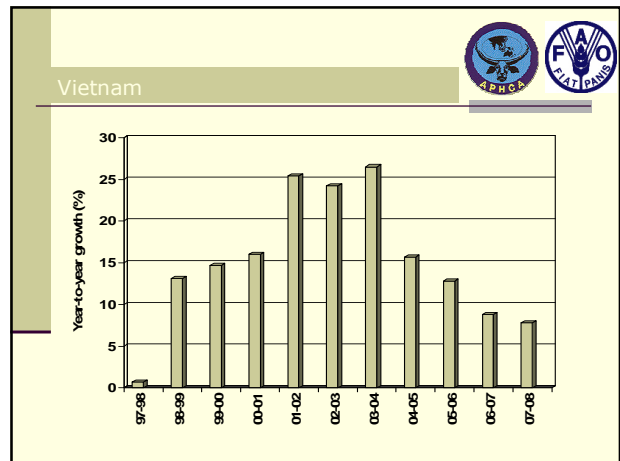
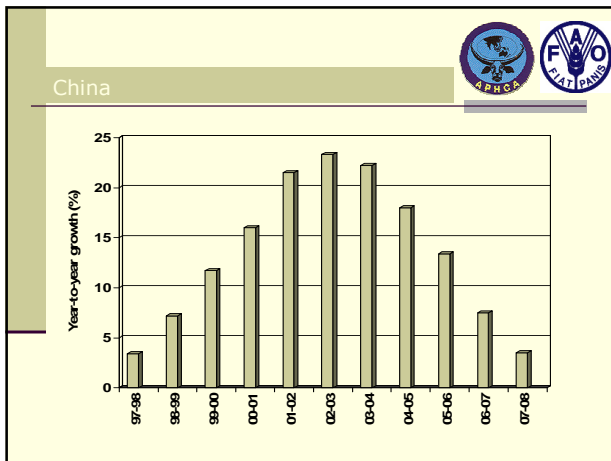


- Philippines:** Dairy Development Zones (targeted development based on priority indicators).
- Pakistan:** Haleeb case (private sector linkages to smallholder holders)
- India:** Anand model linked to Operation Flood activities.
- Thailand/Bangladesh:** strong role of cooperatives (supported by development interventions)
- Sri Lanka:** an example of very limited support for dairy until recently
- China:** Inner Mongolia/Heilongjiang-examples of third part milk collection stations; dairy barns, private sector investment linkages to smallholders.
- Vietnam:** strong dairy development through government support (down to local levels) supported by privatization of markets
- Mongolia:** total cow to consumer approach; strong socio-cultural aspects, each link in dairy chain has to be sustainable and profitable; generic branding/marketing

Bangladesh



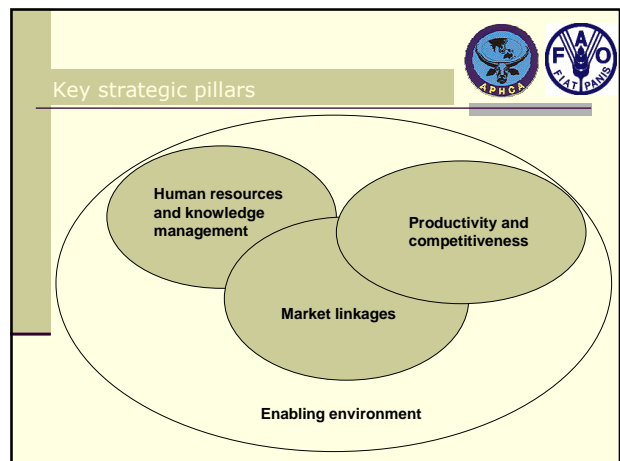


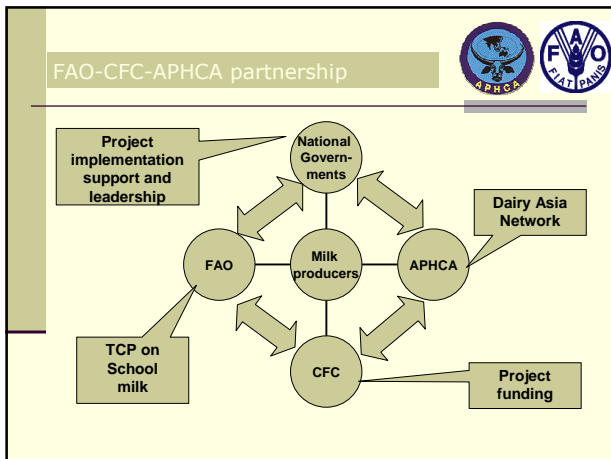


What are some general lessons?

- ### Some lessons from FAO studies
- It is important to carefully target smallholder dairy development interventions (Philippines). Same is true of pro-poor, social programmes need to be carefully targeted and are usually only sustainable if linked to remunerative markets (Bangladesh)
 - Governments have to be careful about interventions in the sector, including pricing policies (Pakistan) and dairy cow loan schemes (Bangladesh, Vietnam, Mongolia)
 - In some cases, Governments need to be concerned about monopoly power of processors (floor pricing for milk might work in this situation) (China)
 - Government investment in large operations usually does not work (Philippines)
 - School milk programmes, when implemented with a focus on smallholders, can support dairy development (as well as generating long term demand for dairy products) (Thailand, Philippines)

- ### Some lessons from FAO studies
- Industry institutions and smallholder groups (associations, cooperative etc) can have a pivotal role in supporting dairy development (India, Philippines, Thailand)
 - Creative and carefully thought out linkages with private sector (which includes technical assistance, financial support) can allow smallholder to move up into a different marketing chain (Philippines, Pakistan)
 - Smallholders need an accessible and affordable complete package of support services (animal health, breeding, extension, finance, etc) to produce milk competitively (Bangladesh, India, Mongolia).
 - Milk quality and attractive product branding/presentation are pre-requisites for persuading modern urban consumers to switch from imports to milk produced by local smallholders (China, India, Mongolia, Philippines)
 - Low tariff regimes facilitating importation of cheap dairy products have hampered development of local dairy industry





- ### Elements of the CFC proposal
- **Country coverage**
 - Thailand, Myanmar and Bangladesh
 - **Three components**
 - Milk Production Enhancement
 - Milk Marketing Enhancement
 - Capacity Building and Information Dissemination
 - **Duration: 4 years**

- ### Elements of the FAO proposal on school milk
- **Country coverage**
 - Thailand, Myanmar and Bangladesh
 - **The components**
 - Review of school milk programmes
 - Design and/or strengthen school milk programmes with a targeting of schools in more rural areas
 - Assess alternative and innovate funding options for financing school milk programs
 - Link the development of these local programmes with opportunities for smallholder dairy participation
 - Support the development of SMEs for manufacturing and packaging range of semi value-added dairy products
 - **Duration: 2 years**

- ### Elements of the APHCA proposal on Asia Dairy Network
- **Country coverage**
 - All APHCA countries
 - **The components**
 - Creation of an information and knowledge network
 - Creation of a demand driven dairying group with a membership base that included dairy firms, dairy institutions, producer organizations, dairy research organizations, and other concerned regional and international partners
 - **Duration: 4 years**



THE ROLE OF GOVERNMENT IN DEVELOPING DAIRY VALUE CHAIN



Bess Tiesnamurti and Yeni Widiawati

Dairy Expert Roundtable Meeting, Muak Lek, 8-9 December 2010

Indonesia Centre for Animal Research and Development,
Agency for Agriculture and Development
Ministry of Agriculture

INTRODUCTION

Current situation of dairy cattle farms in Indonesia

- ▶ Dairy cattle population increased by 33.79 % during the last 5 years and milk production increased by 7.7 % per year (total population of 450.000 heads).
- ▶ However, national milk production (4 million tonnes) only provide approximately 30 % of total national milk demand (1,2 million tonnes) and about 70 % of the demand still imported (mostly from Australia and New Zealand)

87 % of dairy farm is smallholder farmers and 13 % is middle to industrial farms.

Continue

- ▶ Low productivity of dairy cattle is mostly due to **traditional management** applied in small holder farmers (feed availability, management at early age, mastitis sub clinical, barn hygiene and sanitation)
- ▶ Dairy cattle farms mostly (98.7 %) located in Java island and 1.3 % in other island of Indonesia (North Sumatera, Bengkulu, Jambi, Lampung, Riau, West Kalimantan, Sulawesi, Bali).
- ▶ Milk Processing Industry (IPS) is a single market for milk produced by the farmers. Almost 80 % of national milk produce is purchased by IPS. And only 20 % directly sale to the consumer, Thus the price of milk is depend solely on the IPS as a single buyer.



Continue.....

- ▶ **Many dairy technologies on management of feeding, reproduction as well as milk processing procedures are available by research institutes and universities.**
- ▶ **However the rate of technology adoption by small holder farmer are still very low.**
- ▶ **Many local feed sources potentially for dairy cattle are still exported**

Government role on dairy cattle industry

1. **Coordination with GKSI (Indonesian Milk Cooperation Organization) and department of education to create milk market directly to the students**
2. **Through P2HP (Directorate General of Agriculture Processing) built facilities for milk processing in many milk collecting unit closed to the farmers.**
3. **Training and education for farmers on dairy farming management, milk processing and market.**

Some proposed solutions

- ▶ Government should issue regulation to limit export quota for local feed sources
- ▶ Government should issue a regulation to support the using of Forestry land by farmers for feeds supply
- ▶ Government should issue regulation to create alternative market for milk, one example of market target is students started from preliminary school to high school, or to offices and universities.
- ▶ Dairy rearing management program to increase the number of cows

Continue

- ▶ Expand the dairy farming to others island of Indonesia, the nature of Sumatera, Kalimantan and Sulawesi are very potential for this.
- ▶ There are two proposed scenarios in expanding of dairy farming to other island :than Java :
 - a. selecting an area then built the dairy farming industries. Local government has important role in this scenario.

Continue ...

b. Local government has to provide some training and education regarding management of dairy farming to local people. Some successful farmers in Java must be transferred to other island to assist the development of the dairy farming in selected provinces

c. Government had to transfer some dairy cows to Sumatera island to support development of dairy industry

Conclusion

- ▶ Dairy cattle in Indonesia still has potential to be developed, particularly in other island of Indonesia (Sumatera, kalimantan, and sulawesi)
- ▶ Support of National and local governments are required in expanding the dairy cattle industry in the other islands
- ▶ Some important regulations must be issued by Central Government to protect the exodus of local feed sources

Pictures of dairy activities



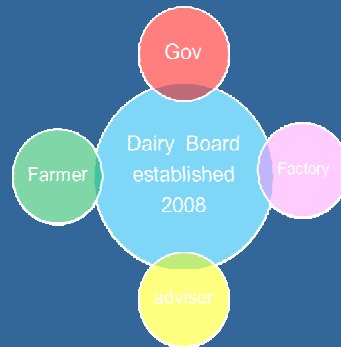
TERIMA KASIH

THANK YOU

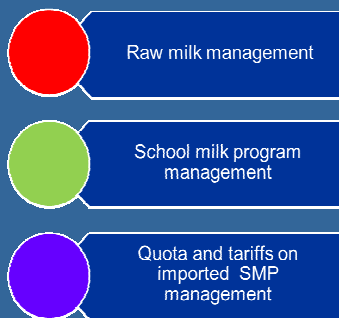
The role of government in developing the dairy value chain

SINCHAI RUENGPAIBUL
Dairy Extension Expert
Department of Livestock Development
THAILAND

Dairy Board committee



Main Focus



Process of Raw Milk Quality Control by Department of Livestock Development 2010

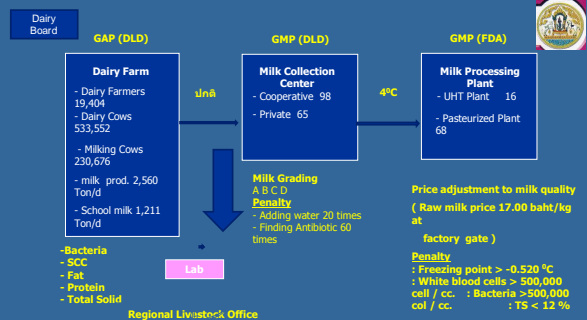


Table 1.1: Dairy cattle population from 2008 - 2009

Year	No. of dairy cattle (heads)			
	Calves	Heifers	Cows	Total
2008	122,274	94,422	273,059	489,755
2009	115,113	99,833	278,605	493,551

Table 1.2 : The distribution of dairy farms and dairy cattle in different regions (2009)

Region	% No. of farms	% No. of dairy cattle
Central	68.62	68.80
North Eastern	20.87	20.93
Northern	9.51	9.56
Southern	1.00	0.71
Total	100	100



Table 1.3 : Percentage of dairy cattle in different HF%

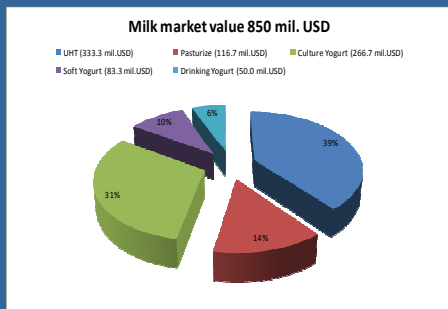
Friesian (HF) %	Dairy population (%)
62.5 % HF	4.7
75 % HF	26.7
87.5 % HF	46.2
93.75 % HF	20.2
100 % HF	1.0
Other breeds	1.2
Total	100.0



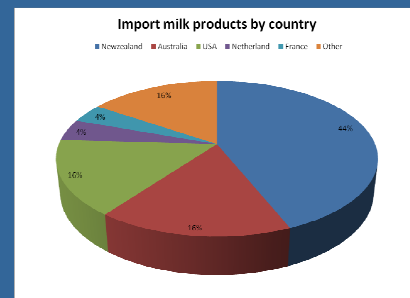
Table 1.4 : Total milk production from per year and per day from 2007 - 2009

Year	Milk Production per year (Tons)	Milk Production per day (Tons)
2007	750,778	2,056.92
2008	775,866	2,125.66
2009	889,043	2,435.73

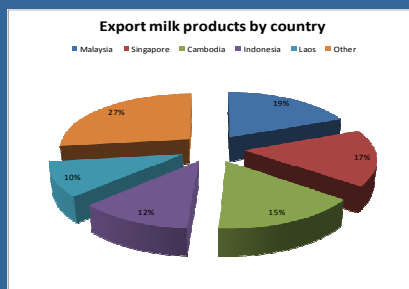
Milk market value in Thailand 2008



Imported milk products 2008 (602.2 mil.USD)



Export milk products 2008 (182 mil.USD)



Thank you



THE ROLE OF THE GOVERNMENT IN DEVELOPING THE DAIRY VALUE CHAIN IN VIETNAM

Dr. Do Kim Tuyen
Department of Livestock Production -
MARD -THAILAND- DEC. 2010

contents

- I. Introduction
- II. The role of the government in the development of the dairy value chain
- III. Conclusion

I. INTRODUCTION

- Why, in 2001, the Vietnamese Government took up Decision number 167/2001/QĐ-TTg on “The Policies and Measures for Dairy Production Development Program of Vietnam from 2001 to 2010 ”



BECAUSE

- Vietnam had a big change in agricultural development; from a food deficit nation to an agricultural export country.
- Nevertheless, every year Vietnam imported about 90% of powder milk and dairy products for local consumption.
- Total value of imported dairy products was 2.5 million USD in 1990, increasing to 50 million USD in 2000.
- Importing dairy products means that Vietnam imported agricultural labor, meanwhile Vietnamese farmers were looking for ways to improve their economic situation.

BECAUSE

- Development of dairy farming was the instrument of the Vietnamese Government for changing the economic structure in agriculture and rural development, and increase the income and living standard for farmers.
- To meet the high demand of milk and dairy products for local consumption, and, step by step, reduce the import of dairy products.

II. The role of government for development of dairy value chain (Theo Q§ 167/2001/Q§-TTg)

- In 2001, Government of Vietnam issued the Decision No. 167/2001/QĐ-TTg dated 26/10/2001 on “The policies and measures for dairy production development program of Vietnam from 2001 to 2010 ”

1. OBJECTIVES

• a. General Objective

Development of dairy production to:

- meet the local demand of milk consumption;
- reduce, step by step, the import of milk and dairy products;
- create new jobs;
- increase the income for farmers and improve the living standard in rural areas

2. Dairy Development Policies

- 1. Government encouraging all organizations, individuals of Vietnamese and foreign companies to invest in dairy farming and dairy breeding, to meet the local demand for dairy development and dairy consumption
- 2. Provincial authorities have a land use planning for dairy farm construction, upgrading of local cattle breed, dairy cross breeding, production of grasses and milk collection points.

...General Dairy Development Policies

- 3. Priority for dairy farming; from the small scale farms to the medium and big farms.
- 4. The state dairy companies and the other companies have the responsibility for dairy technical services, breeding, technical equipments supply, veterinary services, milk collection and dairy processing.
- 5. Establish the dairy cooperatives, to support dairy farmers in milk production, collection, and fresh milk pricing; and establish the dairy association for dairy farmers and dairy processors.

... Milk Collection Policies

- 1. Dairy processing construction and planning must be based on:
 - Dairy development and milk production region
 - Convenience to dairy farmer for fresh milk delivery
 - Signing the milk collection and delivery contract with dairy farmers.
- 2. Ministry of Industry and Commercial has an annual plan of dairy products utilization, for balancing the local milk production and the import of dairy products in order to support local dairy development.

... Credit and Loan policies

- **The investment credit:** including a central budget and local budgets for:
- Improving the local yellow cattle breed, by crossing with Zebu bulls
- Supplying semen, liquid nitrogen, and AI kits for free, as part of the dairy cow cross-breeding program
- Subsidizing the new born male dairy calves (10 USD for each calf) during the first three years of the dairy development project

...Credit and Loan policies

- Support loans with a low interest rate, for purchasing dairy cows, to farmers whose got the bank contracted in the first three years of the dairy development program.
- Support free vaccinations for epidemic diseases in dairy cattle.
- Loan for the construction of a milk collecting system and dairy processing plan, according to the support development fund policy by government Minute No. 43/1999/NŞ-CP.

3. THE MAIN ACHIEVEMENT

The number of dairy cows and the milk production has increased fast during the last 10 years

THE NUMBER OF DAIRY COWS 2001-2009

SN0	YEAR	Dairy cow (1000 h)	Increase Rate (%)
1	2001	41,241	17,89
2	2002	55,848	35,43
3	2003	79,225	41,84
4	2004	95,794	20,92
5	2005	104,120	8,70
6	2006	113,215	8,73
7	2007	98,659	-12,86
8	2008	107,983	9,45
9	2009	115,518	6,98

TOTAL COW & MILK PRODUCTION 2001-2009

SN.0	YEA R	Dairy cow (1000)	Increase Rate (%)	Milk (1000 tons)	Increase Rate (%)
1	2001	41,241	17,89	64,703	25,73
2	2002	55,848	35,43	78,453	21,25
3	2003	79,225	41,84	126,697	61,49
4	2004	95,794	20,92	151,314	19,43
5	2005	104,120	8,70	197,679	30,65
6	2006	113,215	8,73	215,953	9,24
7	2007	98,659	-12,86	234,438	8,56
8	2008	107,983	9,45	262,160	11,82
9	2009	114,461	6,00	278,190	6,11

III. Conclusion

- 1. The dairy production development program of the Vietnamese Government, from 2001-2010, has been a success and it meets the local demand of dairy products.
- 2. All provinces are encouraged to establish their own dairy development program, create jobs, and increase the income and improve the living standard of dairy farmers in the country.

...CONCLUSION

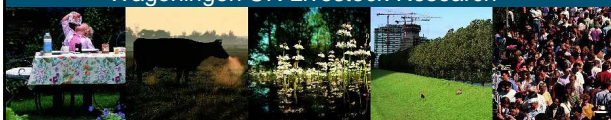
- 3. Dairy production policies had an important role in changing the economic structure in Agriculture and Rural development.
- 4. The national target of 150,000 dairy cows and 330,000 tons of fresh milk production for 2010 is achieved.
- 5. We need the international cooperation and support to reach the targets of the dairy development plan of Vietnam in 2020 (470,000 dairy cows and 1 million tons of milk)



SETTING THE SCENE

Experiences & lessons learnt with improvement
production, input supply and services

Bram Wouters
Wageningen UR Livestock Research



LIVESTOCK RESEARCH
WAGENINGEN UR

Context and objective

- Some characteristics of production, input supply and services
- Key issues and solutions
- Presentations

LIVESTOCK RESEARCH
WAGENINGEN UR

The Value Chain



LIVESTOCK RESEARCH
WAGENINGEN UR

Inputs/ resources

- Land
- Feeds
- Seeds
- Breeds (cattle)
- Fertilizer
- Water
- Veterinary Medicines
- Equipment
- Labour
- Credit/ loans

LIVESTOCK RESEARCH
WAGENINGEN UR

Issues related to inputs/resources

- Availability and access to land (tenure issues, competing claims etc.)
- Availability, access and quality of feeds (concentrate feeds, supplements etc)
- Availability and quality of cattle (crosses, pure-breds etc)
- Labour quality (education, skills etc)
- Organisation of input supply (private sector, farmers associations/ cooperatives, business hubs)
- Availability and costs of credit/loans

LIVESTOCK RESEARCH
WAGENINGEN UR

Services

- Veterinary Services
- AI
- Advisory services
- Quality measurement and monitoring (milk, feed)
- Management information services (breeding, milk recording)
- Recording and data base management (milk recording, identification & registration)
- Maintenance services
- Financial services

LIVESTOCK RESEARCH
WAGENINGEN UR

Issues related to services

- Availability and quality of services
- Role of government/ private sector in provision of services (animal health, AI, advisory services)
- Organisation of services by private sector (farmers associations/cooperatives, private companies)
- Improving capacity of service providers

Issues related to milk production at farm level

- Feeding, breeding, disease prevention (interaction feeding, fertility, mastitis)
- Cost price and business orientation
- Farm management/ hygiene and raw milk quality
- Farmer capabilities (education, skills)
- Capacity building farmers, advisors (training, use of advise & information)

The Country Presentations

What are experiences and lessons learnt?

- **Vietnam:**
Mr. Luu Van Tan
Dairy Farming in Vietnam.
- **Philippines:**
Mrs. Victoria O. Espaldon
Sustainable livelihood and small holder dairy farming in the Philippines. Some insights and challenges.
- **Indonesia**
Mr. Yusup Munawar
Role of cooperatives in input supply and services: the role of GKSI




Dairy farming in Vietnam
Dairy Development Program

Luu Van Tan, DDP manager
Muak Lek, Thailand, 8-9 December 2010




Dairy farming in Vietnam
Dairy Development Program

Content

- 1. Dairy Farming in Vietnam**
 - Dairy herd and milk production
 - Current constraints and future of dairy farming
- 2. Dairy Development Program**
 - Introduction of DDP
 - Our FCV 's mission and Milestones of DDP 1996-2010
 - Milk collection
 - Extension services and training program
 - Milk quality control
 - Milk payment system
 - Achievements (herd development, milk collection, quality)

2

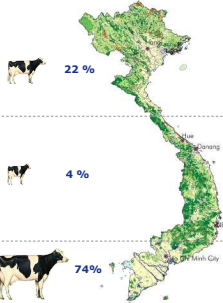


Dairy farming in Vietnam
Dairy Development Program

Dairy farming in Vietnam


National dairy herd – milk production

NATIONAL MILK PRODUCTION (June 2010)
MILK: 274 mln Kg ANNUAL (750 T/day)
DAIRY CATTLE: 115,000 heads (Estimated)



22%	25,000 heads produce 120 T/day (16%)
4%	5,000 heads produce 19 T/day (3%)
74%	85,000 heads produce 611 T/day (81%)

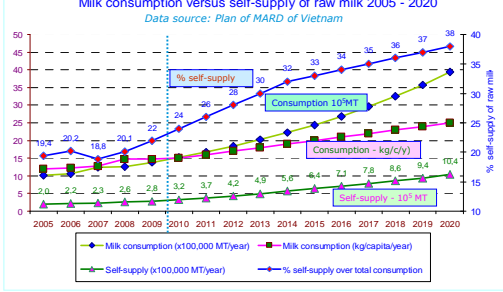
3



Dairy farming in Vietnam
Dairy Development Program

Milk consumption versus self-supply of raw milk 2005 - 2020

Data source: Plan of MARD of Vietnam



Annual growth of milk consumption = 10%. (78% imported milk in 2010)
Annual growth of self-supply of raw milk = 10-15% (organic growth & cow importation)
→ % self-supply = 22-24% (2010) and = 38% in 2020 as planned by Vietnamese government

4




Dairy farming in Vietnam
Dairy Development Program


Dairy farming in Vietnam

Herd size


>95% of dairy farm is **small holders** – limited land to grow



Herd size of 8 – 12 heads and a families' business
60-70 kg/day



<5% of farm is specialized in dairy – so called **specialized farm**



Herd size of 100-200 heads
300-1,000kg/day



5



Dairy farming in Vietnam
Dairy Development Program

Dairy farming in Vietnam

Herd size & herd development

Only few farms that have >1,500 kg/day, equipped cooling facility



These farms deliver directly to FCV. Herd size of 450 -600 heads/farm with 3-6 T kg/day/farm

Development of herd size 2005-2009 (source: DDP herd count report 2009)



6

Dairy farming in Vietnam

Current constraints and a vision of future dairy farming

Current constraints

1. Land – Investment: >95% of farms is small holder in urban areas
2. Farming skill: management + know-how ...
3. Government policy: Long-term planning + legislation & regulation + education
4. Infrastructure in rural area – utility + farm inputs + milk collection
5. Not economic due to small herd size (high input cost and not pro.)

A vision of future dairy farming (for a sustainable development)

1. Dairy farming zone is planned and effective policies are made by government
2. Commercial size + pro. management + profit stability + friendly with environment
3. Quality oriented: Good dairy farming practices & and milk quality and safety
4. Be competitive with other local agri. businesses and world market milk price

Dairy Development Program

Our mission: Supports sustainable development of dairy farming

1. Milk collection

- Milk collection system – Direct contract
- Incentive payment as quality and volume delivered
- Transparent milk payment system

2. Extension

- Good quality farm services (AI & Vet health care)
- Practical training → + productivity
- Farm management → + milk quality & safety
- Good Dairy Farming Practices (GDFP & bonus scheme)

3. Link between FCV and dairy farmer / Gov. organizations

- Support "Grouping farmers" (cost control)
- Building up a long term relationship with local farmers and others
- Contribute to the national dairy development

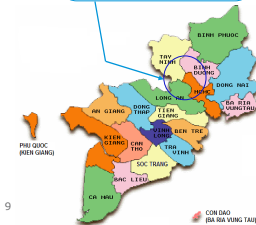
4. Competition

- Quality oriented (in farming practices and milk quality)
- Control milk cost production at farm → profit stability

Dairy Development Program - DDP

OPERATION REGION OF FCV

- 2,500 FARMS
- 27,200 HEADS - HERD SIZE
- 40 COLLECTION POINTS
- 2 CHILLING CENTRES
- 70 STAFF DDP



Dairy Development Program activities



MILK COLLECTION
Milk Price – Milk Quality



CONTROL → ENSURE MILK QUALITY (FOOD)

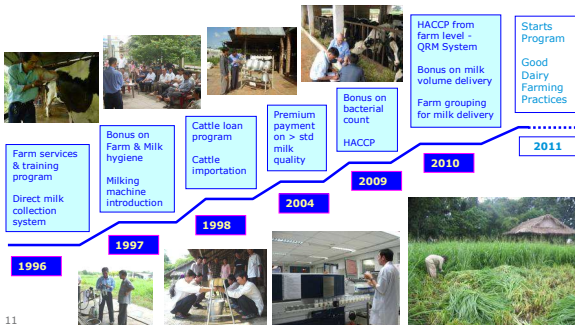
EXTENSION
Training
Extension Service



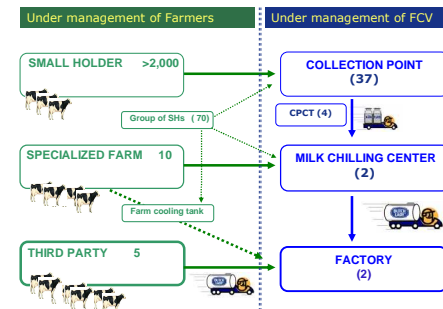
SPECIAL PROJECTS
Improve milk collection method
Demo-farms - Loans



Milestones in 15 years (1996 -2010) of DDP - FCV



DDP – Milk collection method (Dec. 2010 – 160T/day)



FrieslandCampina Dairy farming in Vietnam Dairy Development Program

Extension activities

Technical farm services

- Artificial insemination / Veterinary health care
- Practical training on dairy husbandry and farm economic
- Herd management / milking machine testing
- Encourage large farm development and farm grouping

1,500 - 2,000 request from farmers annually

- Well-trained extension team
- Applying Good Dairy Farming Practices
- Training, service & consultant: free of charge
- On cost basis for farm-input materials

FrieslandCampina Dairy farming in Vietnam Dairy Development Program

Farm Milk quality control

- Milk quality standard: 12% TS; 3.5% Fat; TPC of 350,000 cfu/ml; free of antibiotic and free of additives.
- Incentive milk payment and bonus payment for desired quality and quantity
- Quality risk management system for raw milk from farm to factory (HACCP)

< 3 HOURS

AT FARM Farm Hygiene Training

COLLECTION POINT Acceptant test at CP CP inspection Individual sampling

MILK CHILLING CENTER Quick cooling <4°C MCC inspection Sampling

FrieslandCampina Dairy farming in Vietnam Dairy Development Program

A transparent and incentive milk payment system

Milk payment system FrieslandCampina VN

Milk payment consists of:

- Standard quality composition, hygiene quality → Standard price and Surcharge at delivery gates
- > Std of milk composition < Std of bacterial counts & SCC → Premium payment to milk with higher std. quality
- Scoring on Good Dairy Farming Practices Milk volume delivery (kg/day) & Loyalty → Incentive bonus is paid to GDFFP & Volume delivery

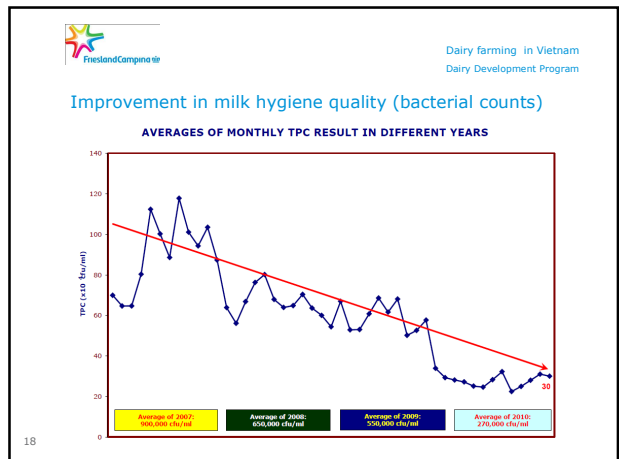
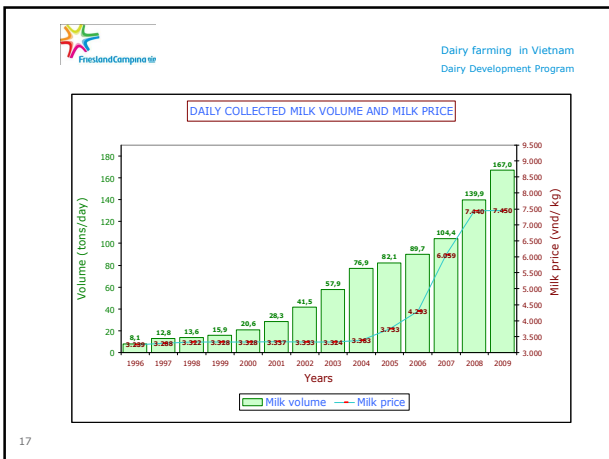
FrieslandCampina Dairy farming in Vietnam Dairy Development Program

Development of dairy herd and milk production

OPERATION REGION OF FCV

HERD-COUNT 2005 – 2009 in FCV region (source: DDP herd count report 2009)

Years	# of farms	Cattle (# heads)	Production (Ton/day)	AVG. heads/F	AVG. kg/day/F
2005	2,260	17,900	90	7.9	39.7
2006	2,100	18,600	92	8.9	43.6
2007	2,030	19,100	125	9.1	55.9
Mar '08	2,270	22,600	137	9.4	60.0
Nov '09	2,389	27,200	172	11.0	71.8



Achievements

Benefits for farmers

- Providing an efficient model of transfer of dairy husbandry techniques to farmers → Improve milk production and milk quality + Better control farming cost → PROFIT stability → Sustainable development.
- Secure out-let market in rural areas to dairy farms by a direct contract for raw milk supply → Farmers get fair price when selling milk directly to the company.

Benefits for local community and country (as a CSR)

- Creating job and stable income for local farmers in rural areas
- Contributes to sustainable development of dairy farming
- DDP would be seen as a model for dairy projects in the region

Benefits for company

- Secure raw milk intake from local farms at competitive cost price
- Secure quality and safety of raw milk → quality of dairy products
- Building up a good company image in the country

From a happy cow ...



... to a happy farmer at local bank



Thank you for your attention



AgriPart2020

Export Processing Zone Authority

Livestock Development

Smallholder Dairy Cattle Farming and Sustainable Livelihood in Southern Tagalog, Philippines



Ma. Victoria O. Espaldon
Celso M. Tatlonghari
Jose Q. Molina
Cesar C. Sevilla
Jan van der Lee
Zenaida M. Sumalde

Outline of the Presentation

- Why did we do the study?
- How did we do it?
- What are the limitations
- What are the results?
- What are some insights and challenges?

Why did we do the study?



Main Objective

Examine contributions and impact of smallholder dairy cattle farming to sustainable rural livelihood strategies.



Specific Objectives

- Develop an indicator system to measure contributions and impact of smallholder dairy cattle farming to sustainable livelihood of rural community
- Use the indicator system to assess contributions to livelihood assets or 'capitals'
- Show spatial distribution of smallholder dairy cattle farmers
- Forward recommendations to promote a sustainable dairy cattle industry in the country



What are the study limitations

- Data source are small dairy farmers of small dairy coops based on recall
- There is scarce monitoring data, or farmer records
- Preliminary results of the study

How did we do it?

FRAMEWORK

UK Department for International Development (DFID) sustainable livelihoods framework (focused on *access, use, build-up and improvement of 5 livelihood assets or 'capitals'*)

INDICATOR SYSTEM

FAO-Nha Trang University (Vietnam) indicator system for Small Scale Aquaculture (SSA) modified to suit smallholder dairy cattle farming (5 livelihood capitals namely financial, social, human, physical and natural with 17 indicators)

Financial Capital



Financial resources available to people and provide them with different livelihood option

(household income, savings, supplies of credit or regular remittances or pensions)

Social Capital

Social resources upon which people draw in pursuit of livelihoods
(kinship networks, associations, membership organizations and peer-group networks, access to wider institutions of society)



Human Capital

Capacity of people in terms of their *health, knowledge, skills and education* to pursue different livelihood strategies



Physical Capital

Physical properties of household and community used in livelihood activities
(farms, house, farm implements, infrastructures such as water systems, road networks, energy distribution system and communication system)



Natural Capital

Natural resources used in livelihood activities

(crops cultivated, animals raised, areas of pasture leased or accessed by license, and farm by-products)

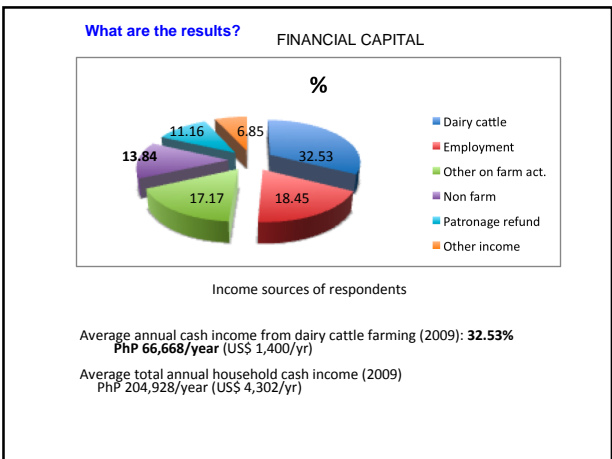
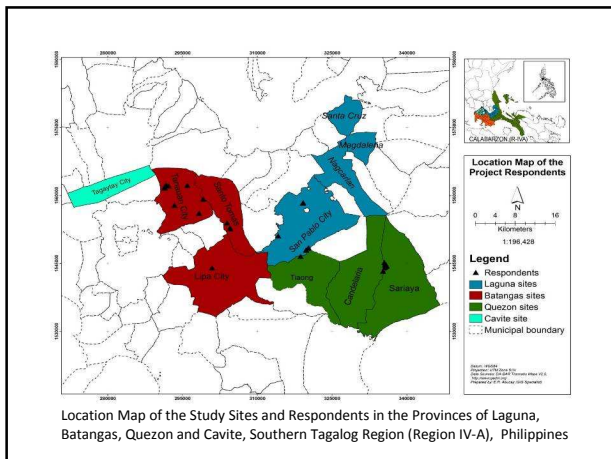


Methodology

Combination of various research methods for data collection:

- Secondary data analysis
- Farm survey-interview
(44% of actual total number of respondents)
- Field observation
- Photo documentation
- GPS mapping
- Key informant interviews
- Validation-consultation workshop





Source of household economic security

Indicator: Economic return to household from dairy cattle farming (gross profit and profitability)

Result : Gross profit/household/year (average): PhP 13,692/yr (US\$ 287/yr)

Profitability – 9.49%

Financial Analysis

Gross Income or Sales (PhP/HH/yr)

Number of milking cows per household (*average*): 3 heads

Milk production (*average*)

- *per cow per day: 7.17 liters or kilograms
- *per household per day: 23.02 liters or kilograms
- *per household per year: 6,919 liters or kilograms

Buying price of fresh milk (*average*): PhP 20.01/liter (US\$ 0.42/liter)

Gross income (Sales) from milk: PhP 138,451/yr (US\$ 2,906/yr)

Number of animals sold (*average*): 1 head

Buying price of animal (*average*): PhP 5,789/head (US\$ 122/head)

Gross income (Sales) from animals: PhP 5,789/yr (US\$ 122/yr)

Total Annual Gross Income (Sales) from Fresh Milk and Animals: PhP 144,240/yr (US\$ 3,028/yr)

Annual Production Cost

Cash Cost		
	Amount	%
Feeds/concentrates	PhP 62,131.32	47.59
Breeding Cost	1,561.94	1.20
Health/veterinary cost	1,202.20	0.92
Light and power	4,420.65	3.39
Water	2,901.22	2.22
Loan Repayment	5,355.15	4.10
Total Cash Cost	PhP 77,572.38	59.42
Non-Cash Co		
	Monetary value	%
Forage cost (labor in collecting forage)	25,019.00	19.16
Family labor (tethering animals, feeding, milking and cleaning)	27,956.62	21.41
Total Non-Cash Cost	52,975.62	40.48
Total Production Cost	PhP 130,548.00	100.00

Cost and Return Analysis

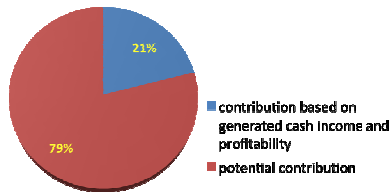
A. Gross Income (Sales)	PhP	144,240.00
B. Cash Cost		77,572.38
C. Non-Cash Cost		52,975.62*
D. Total Production Cost (B + C)		130,548.00
E. Annual Cash Income (A – B)		66,668.00
F. Gross Profit (A – D)		13,692.00
G. Profitability (F/A x 100)		9.49%**

*Non-Cash Cost = non-cash income (payment for family labor and other owned resources in raising animals; value of family's labor had they worked somewhere else)

** relatively higher had the household deposited cash involved in dairy production in a bank (prevailing interest rate for time deposit for small amount of money deposited in most banks is 7% or less p

Overall Contribution to Financial Capital

21% contribution in improving the financial capital (average of Indicators contribution to household income and economic return)



Social Capital

Social Participation	%
Household membership to cooperatives/associations	92
Roles in cooperatives/associations	100
Participation in organizational activities	92
Number of meetings attended per year	92

Result: High percentage of farm households are active members(93.68%)

Gender Analysis

Critical Dairy Farming Activities	Decision-making (%)		
	Husband	Wife	Both Husband and Wife
1. Establishing farm enterprise	50	18.42	28.95
2. Farm management and operation	52.63	7.89	36.84
3. Buying/procuring farm inputs	57.89	18.42	18.42
4. Selling and distribution of produce	28.95	18.42	44.74
5. Record keeping and budgeting	36.84	31.58	23.68
6. Allocating household expenses	18.42	39.47	39.47
7. Loan for dairy cattle	23.68	18.42	52.63

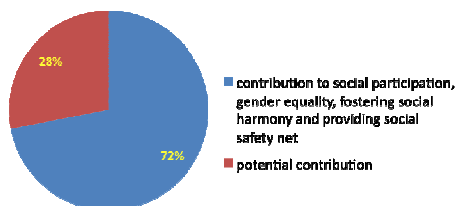
Result: Medium Low contribution of women in major decision making (34.96%)

Dairy cattle farming has provided a fallback employment and alternative source of income – in providing social safety net especially when economic situation is not good.



Overall Contribution to Social Capital

72% contribution in improving the social capital (Average of Indicators)



HUMAN CAPITAL

Contribution to better health and nutrition

Indicator: Per capita annual consumption of fresh milk and meat in dairy cattle farming households

Result: Sufficient per capita annual consumption of fresh milk for 47% of households (HH)



Contribution to Child enrollment and attendance to formal education

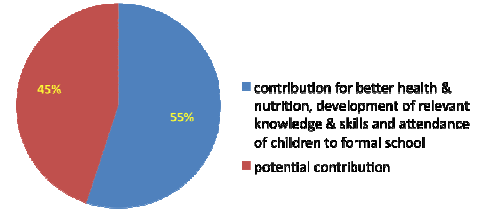
Indicator: Number and gender of children enrolled and attended formal education (SY 2009 – 2010)

Result: High number and equal gender distribution among HH members (approx 70%)

No of Households with:	%
Children in Formal School	68
Elementary	41
High school (Bats&Quezon)	29
Vocational/2 yr course	2
College (Laguna&Bats)	28
Male-Female	50:50

Overall Contribution to Human Capital

55% contribution in improving the human capital (average of Indicators)



PHYSICAL CAPITAL



Contribution to Build-up of farms and farm assets in rural areas

Indicator: Number of farms, farm areas and farm assets increased over 5 years in study areas (2005-2009)

Result: Medium to Low increase-- 35.80%

Indicator : Types and number of rural infrastructure investment not purposely for dairy cattle farming but benefit dairy farming

Result : Average use and benefits-- 61%

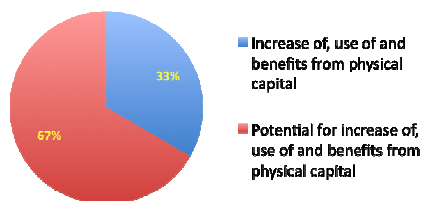


Average use and benefits due to:

Infrastructure	%
Domestic water system	100
Road system	100
Electricity	95
Telephone	82
Cooperative house	13
Public address system	3
Village coop	34

Overall Contribution to Physical Capital

33% contribution in build-up and use of existing physical capital (average of Indicators)



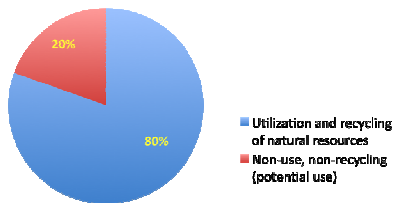
NATURAL CAPITAL

Resources available for re-use and recycling	% of HH
Kitchen leftover	50
Crop residues, by-products & wastes from farm parcels: (fed to animals)	70
Grasses (native & introduced species)	100
Leguminous plants (<i>Gliricidia sepium</i> , <i>Leucaena leucocephala</i> , <i>centrosema</i> , kudzu, <i>Desmodium cinerea</i> , <i>fiamengia</i>)	71
Feeds and concentrates: 95% (rice bran, corn bran, copra meal, salt, molasses, lactating & growing feeds)	95
Milk (sold, consumed, fed to animals)	92
Animal manure (used as fertilizer, sold or given)	66
Water resources (ground water from pumps & faucets for drinking and cleaning)	100

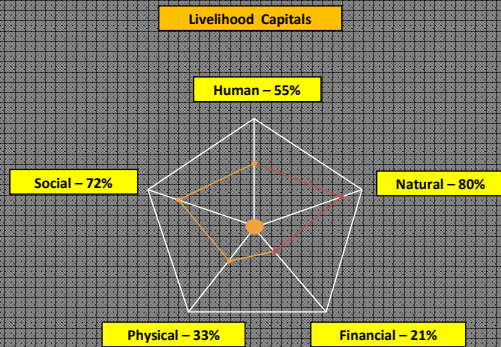
Result : 80% utilization of eight (8) identified natural resources

Overall Contribution to Natural Capital

80% use and 'recycling' of natural resources
(average of indicators)



Overall Contributions of Smallholder Dairy Cattle Farming to Livelihood Capitals



What are some issues and challenges?

CHALLENGES TO IMPROVE FINANCIAL CAPITAL

- How to improve capacity of farmers in terms of knowledge building, e.g. refresher-course trainings on farm accounting, farm economics and financial management
- How to strengthen coops and associations to strengthen linkages with Land Bank of the Philippines (LBP) and other private organizations like NGOs to access funding and other support services for smallholder dairy cattle farming
- How to develop local market and/or exploration of alternative markets for fresh milk especially for small animal holders of farmers' associations

On Physical and Natural Capital

- How to improve herd build up among small dairy farmers
- How to deal with the impacts of climate change and other environmental factors
- Mapping of suitability for dairy farming to guide planning
- Feeds development
- Balance between small and big dairy farmers
- Expanding and exploring market for fresh milk
- Profitability analysis based on good data
- Forum in every island



Thank you very much!



SUPPLY CHAIN OF FRESH MILK ON DAIRY COOPERATIVES IN INDONESIA



YUSUP MUNAWAR
**THE UNION OF INDONESIAN DAIRY COOPERATIVES
2010**

HISTORY OF INDONESIAN DAIRY COOPERATIVES

UNION OF INDONESIAN DAIRY COOPERATIVES

Year 1979 → GKSI (national coop) → ESTABLISHED

↓

Secondary Cooperatives

- West Java, Bandung
- Central Java, Boyolali
- East Java, Malang

UNION OF INDONESIAN DAIRY COOPERATIVES - 2010

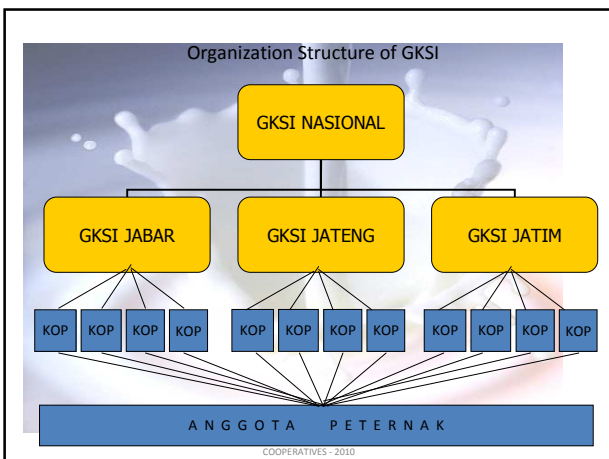
- The dairy cooperatives are founded in the 1980's.
- The number of cooperatives had only 27 in 1979 grew up to 198 coops in 1989.
- Similarly, there was a significant increase in the number of workers absorbed in dairy agribusiness, both as farmers and owners as a worker.
- Increasing the number of cooperatives is not separated by incessant government programs in the development of Cooperative Village Unit (KUD) in rural areas. However, the establishment GKSI in 1979 was instrumental in conditioning the KUD as primaries coop to develop dairy business unit, or called KUD of Milk

UNION OF INDONESIAN DAIRY COOPERATIVES - 2010

THE BUSINESS OF GKSI

- The cooperative dairy farmers who are single purpose that all members are dairy farmers, and KUD as a multi purpose Coops that the members are farmers (dairy and others)
- GKSI as secondary Coop, and the primary coop (KUD milk) as a members of GKSI
- Basically all dairy cooperatives in Indonesia is a member of GKSI, as directed from the beginning that dairy agribusiness development in Indonesia is emphasized through the cooperative.
- Dairy Farmers produce of milk and they sell this product to Milk Industry via GKSI.

UNION OF INDONESIAN DAIRY COOPERATIVES - 2010



CENTER OF DAIRY COOPERATIVES

No.	Working Area	City (head office coop)	Number of primary coops
1	WEST JAVA	BANDUNG	22
2	Central Java and Yogyakarta	BOYOLALI	23
3	East Java	Malang	51
Total Members of GKSI			96

UNION OF INDONESIAN DAIRY COOPERATIVES - 2010

DAIRY CATTLE PRODUCTION AND POPULATION

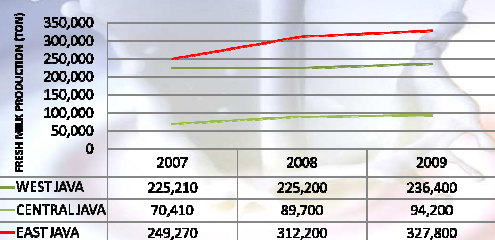
UNION OF INDONESIAN DAIRY COOPERATIVES - 2010

HUMAN RESOURCE OF FARMERS

OWNERSHIP STRUCTURE	WEST JAVA		CENTRAL JAVA		EAST JAVA	
	CATTLE	FARMERS	CATTLE	FARMERS	CATTLE	FARMERS
1-3 Head 70.47 %	102.630	25.263	94.320	25.234	122.315	37.286
4-6 Head 23.49 %	24.118	4.692	22.165	5.037	28.744	8.281
>6 Ekor 6.04 %	6.158	854	5.697	809	7.399	992

UNION OF INDONESIAN DAIRY COOPERATIVES - 2010

TOTAL PRODUCTION OF FRESH MILK SINCE 2007 - 2009



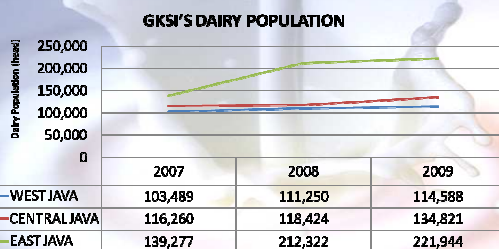
UNION OF INDONESIAN DAIRY COOPERATIVES - 2010

QUALITY OF FRESH MILK 2009

	FAT (%)	TS (%)	TPC (million/CC)	SNF (%)	PROT (%)
WEST JAVA	3.6	11.8	1.7	8.2	2.8
CENTRAL JAVA	3.3	11.3	2	8	2.6
EAST JAVA	3.7	12	1	8.3	2.9

UNION OF INDONESIAN DAIRY COOPERATIVES - 2010

DAIRY POPULATION OF GKSI



UNION OF INDONESIAN DAIRY COOPERATIVES - 2010

PRICE OF FRESH MILK Based on IDR

YEARS	2005	2006	2007	2008	2009
PRICE	1756	1988	2431	3200	3300

UNION OF INDONESIAN DAIRY COOPERATIVES - 2010

TURNOVER VALUE / SALES DAIRY COOPERATIVES 2009

WEST JAVA	832 Billion
CENTRAL JAVA	370 Billion
EAST JAVA	1200 Billion

UNION OF INDONESIAN DAIRY COOPERATIVES - 2010

ROLE OF COOPERATIVES IN INPUT SUPPLY AND SERVICES

UNION OF INDONESIAN DAIRY COOPERATIVES - 2010

Human Resource GKSI

EXTENTION PEOPLE	325
INSEMINATOR/ANIMAL HEALTH	415

UNION OF INDONESIAN DAIRY COOPERATIVES - 2010

GKSI SERVICE

- FEED SUPPLY TO FARMERS
- GUARANTEE PAYMENT OF MILK TO FARMERS
- CEMEN SUPPLY AND ARTIFICIAL INSEMINATION SERVICE
- CONSULTATION OF ANIMAL HEALTH AND TREATMENT SERVICE
- ADVOCATION FROM EXTENSION PEOPLE (TRANSFER KNOWLEDGE AND INOVATION TECHNOLOGY)
- EVERYONE IS ENTITLED TO GET THE INCOME OF THE RESULTS OF EVERY YEAR FROM COOPERATIVE
- FARMER HEALTH
- ETC

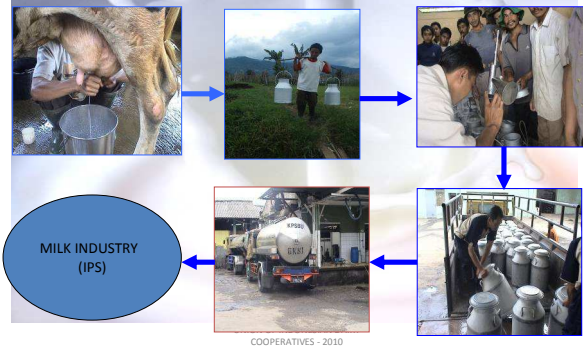
UNION OF INDONESIAN DAIRY COOPERATIVES - 2010

INSTITUTIONAL ASPECT

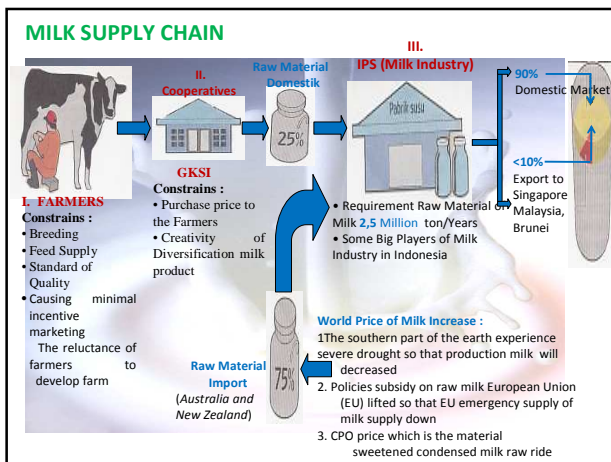
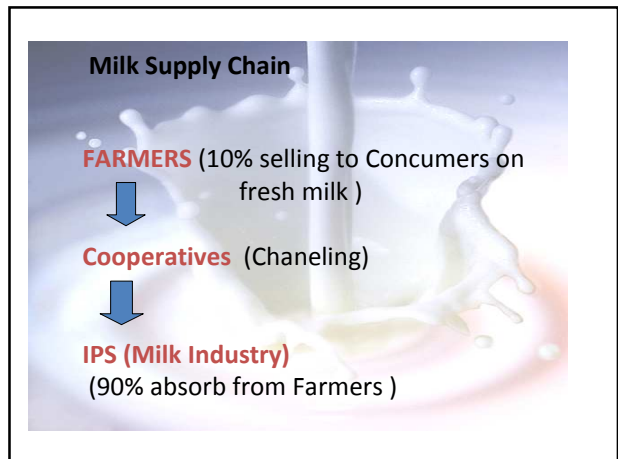
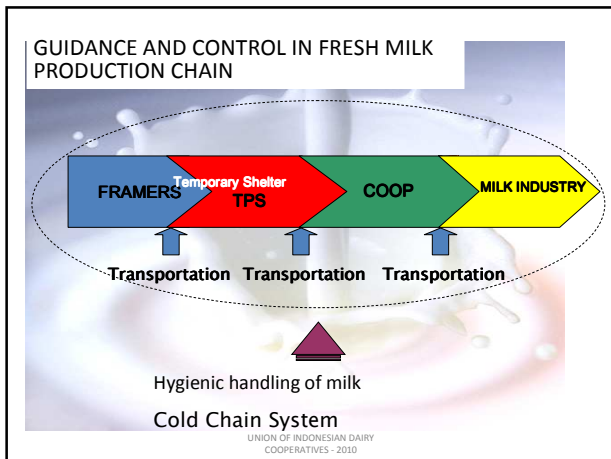
- INPUT SUPPLY** → institutional at the farmer level is identical to the institutional trade system. Institutional trading system in three secondary cooperatives have established quite good and settled
- Milk Trade Channel** → in general trade system of milk produced by dairy farmers who divided into two kinds of flows, namely the flow of which is managed by the cooperative and non cooperative (paturochman, 2009)

UNION OF INDONESIAN DAIRY COOPERATIVES - 2010

DISTRIBUTION CHANNEL OF MILK



COOPERATIVES - 2010



- ### Program and strategy Promotion
1. Movement intensification of Drinking Fresh Milk For School Aged Children (**School Milk**)
 2. School Children Food Supplement Program (PMTAS)
 3. Drink More Fresh Milk Promotion
 4. Direct marketing to Consumer
 5. Processing Capability-based cooperative



TECHNOLOGY & INOVATION ASPECT

OFF FARM

- The development from post production handling of fresh milk to production
- Cooling unit

ON FARM

- Innovation of artificial insemination technology, Embryo Transfer (ET), in vitro Fertilization, Embryo Manipulation
- Sexing Technology

UNION OF INDONESIAN DAIRY COOPERATIVES - 2010



SETTING THE SCENE

Experiences & lessons learned on collection, processing and marketing

Jan van der Lee

Dairy Expert Round Table Meeting
 "Competitive Dairy Value Chains In Southeast Asia"
 Muak Lek, Thailand, December 8-9, 2010



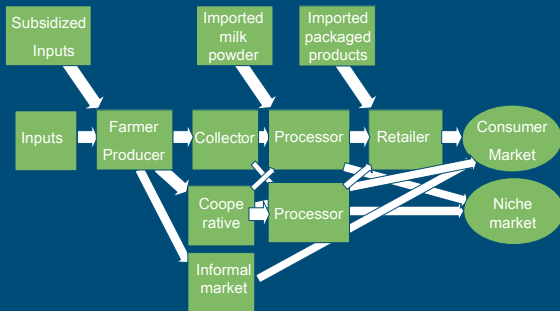
Context and objective

- Character of value chains in Southeast Asia
- Key issues and possible solutions
 1. Sustainable sourcing
 2. Reliable Inputs & Services
 3. Product Quality Assurance
 4. Competitive prices
 5. Industrial or small-scale processing?
 6. Enabling environment

Value Chain



Value Chain – Is it so simple?



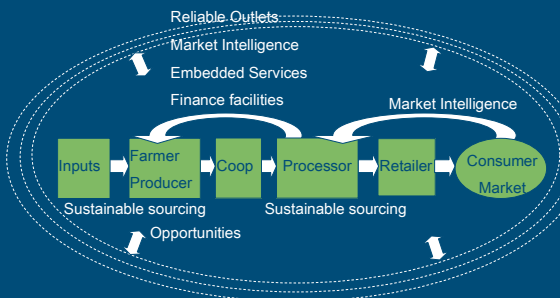
ISSUES in collection, processing, marketing

1. Sustainable sourcing

- Keeping farmers interested: Price, chance of rejection, seasonal fluctuations in supply (hot season) and in demand (school holidays)
- Collection inefficiencies affecting prices
- Low input = Low output

→ Chain embedded services, long shelf life products

What do Producers & Processors need?



ISSUES in collection, processing, marketing

2. Reliable Inputs & Services

- Value chain integration – Strengthening links between processors-farmers-input suppliers, e.g. through Chain-embedded services
- Value chain coordination & advocacy, e.g. through national Dairy Board
- Skilled personnel and capable organizations - Capacity development services

ISSUES in collection, processing, marketing

3. Product Quality Assurance

How to improve milk quality?

- On farm or from collection onwards?
- Start with consumer demand?

ISSUES in collection, processing, marketing

4. Competitive prices

Compete with imports / world market prices

- Reduce cost price along chain (Indonesia ↔ Thailand)
- Niche marketing – cater to special demands - fresh milk, school milk schemes

ISSUES in collection, processing, marketing

5. Industrial or small-scale processing?

Bulk or niche? Central or local processing?
Local, regional or national branding?

Who is best situated for what?

ISSUES in collection, processing, marketing

6. Enabling environment

- Protection of budding sector / import levies, minimal local production
- Definition of fresh milk
- Consumption promotion – school milk

Thank you for your attention

© Wageningen UR



Capacity development – definitions used

- **Capacity building (CB)**

individual level capacity development of knowledge and skills



- **Organizational development (OD)**

organizational level capacity development of organizational competencies and strategies



- **Institutional strengthening (IS)**

capacity development for a group of actors (like the dairy sector), mainly focusing on institutions (*enabling environment*, "rules of the game", e.g. policies)



MILK QUALITY CONTROL- MALAYSIA GOVERNMENT SCHEME

Shariffah Noorhaimi
Dairy Section, Division of Livestock
Commodity Development

INTRODUCTION

- Raw milk quality – importance of the high quality of milk and dairy products made of it.
- Quality of raw milk under strict control.
- Every milk delivery inspected to certain quality parameters.
- Low-cost milk quality control – to help produce and sell dairy products of consistent good quality.

WHAT IS MILK QUALITY CONTROL?

- Use of various tests to ensure that milk and milk products are safe and healthy, and meet the standards for chemical composition, purity, and levels of bacteria and other micro-organisms.

MILK GRADING

- Grade of Milk into 2 categories:
Good quality and poor quality
- 1985- 1996 without grade
- 1997-early 2007 – 7 grades
grade A - good quality milk
grade B & C - fair quality milk
grade D,E,F,G & X - poor quality milk
- Mid 2007 – 2008
grade A & B - good quality milk
grade C,D and X - poor quality milk
- 2009 onwards
grade AA -good quality
grade A - fair quality
grade -A - poor quality

Table 1:- Payment of Milk From 1985- Nov.2010

YEAR	MAXIMUM PRICE/LITRE (RM)	REMARKS
1985	0.77	No grade
1986 Until June	0.74	No grade
July 1986 – August 1989	0.72	No grade
September 1989- August 1992	0.80	No grade
September 1992- December1996	0.90	No grade
January 1997- December 1998	1.05	By grade
January 1999 – June 2002	1.35	By grade A,B,C,D,E,F,G & X
July 2007- May 2008	1.50	By grade A,B,C,D & X
June 2008 – December 2008	1.90	By grade A,B,C,D & X
2009 onwards	2.00	By grade AA, A & -A

3 RM = 1 USD

TABLE 2:- NEW PRICE FOR PURCHASING OF MILK

GRADE	SPECIFICATIONS TPC CFU/ML & TDS%	BASE PRICE (RM/LITRE)	TPC incentive 0.20 million (4wks consequently)	Vol. Incentive 1,000 litre per week	Price ex- MCC'S (RM/litre)
AA	TPC <0.20 million TDS >13%	1.85	0.10	0.05	2.00
A	TPC <0.20 million TDS 11.75-12.99%	1.75	0.10	0.05	1.90
-A	TPC 0.20 -0.50 million TDS 11.75 -12.99%	1.35	-	0.05	1.40

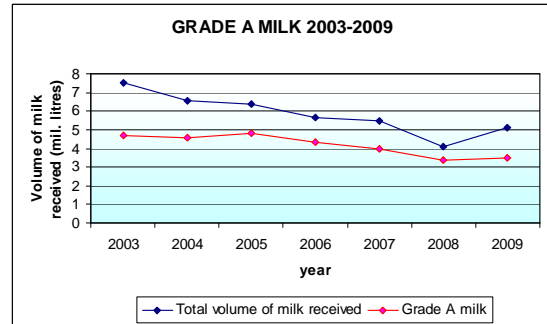
TPC = Total Plate Count

TDS = Total Dissolved Solids

MCC's= Milk Collecting Centres

TABLE 3: PERCENTAGE OF 'GRADE A MILK' 2003-2009

ITEM	2003	2004	2005	2006	2007	2008	2009
Vol. of Milk received (mil.litres)	7.54	6.58	6.36	5.63	5.45	4.11	5.12
Vol. of milk achieved Grade A (mil.litres)	4.69	4.58	4.81	4.31	3.94	3.36	3.49
% achieved Grade A	62	71	76	77	72	82	68



ISSUES AND CHALLENGES

- i. Most small scale dairy farmers still use hand milking.
- ii. Improper cleaning of milking equipment.
- iii. Improper cooling of milk.
- iv. High prevalence of cows with subclinical mastitis.
- v. Not properly identifying treated from healthy cows.
- vi. Not keeping accurate record of dates and time of treatment for withholding milk.
- vii. A thorough understanding of milk quality, in order to plan, implement, monitor and evaluate, a mastitis control program among extensionist.

CURRENT AND FUTURE PLANS

- Organising workshops for dairy farmers and extensionists. Veterinary Services on dairy management, inclusive feeds, milk hygiene, animal sheds, and record keeping, in collaboration with the government of the Netherlands and Dutch Lady Milk Industries.
- To upgrade the existing milking equipment in Milk Collecting Centre.
- To equip cold chains on lease basis for dairy farmers.
- Mastitis Control program, carried out by extensionists.

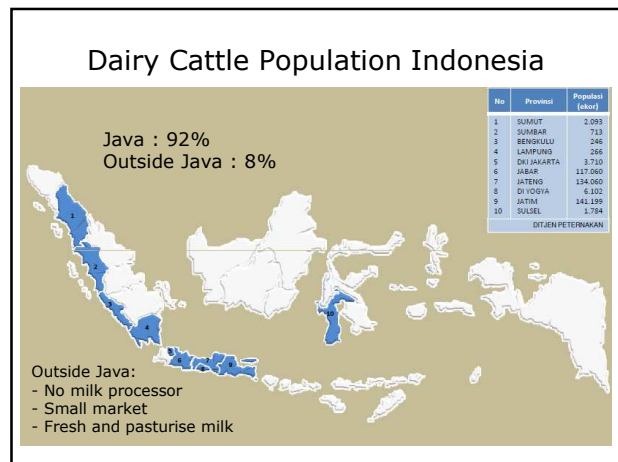
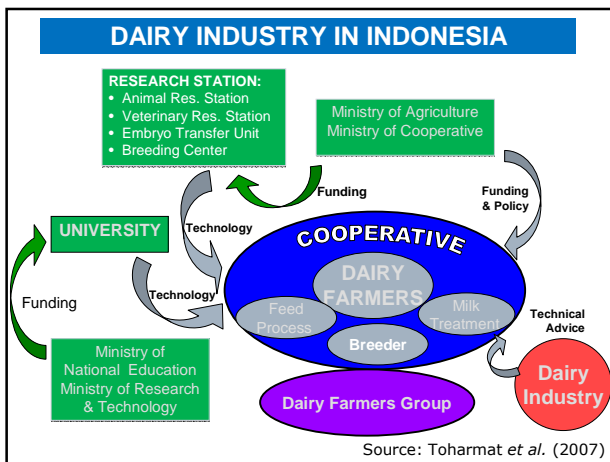
Organization of Milk Collection in Indonesia

Dr. Idat G. Permana
Bogor Agricultural University – Indonesia
Email: permana@ipb.ac.id

Workshop on Competitive Dairy Value Chains for Southeast Asia
Muak Lek, Thailand, December 8 & 9, 2010

The Advantage of Dairy Industry in Indonesia

- ❑ Village based industry
- ❑ Involves 69,300 farmers and 211,000 employees
- ❑ Allows farmers to get daily income
- ❑ Improves nutritional status
- ❑ Utilize local resources
- ❑ Support sustainable agriculture



Dairy Cattle Population Indonesia

No	Propinsi	Populasi (ekor)	No	Propinsi	Populasi (ekor)
1	Nanggroe Aceh Darussalam	23	11	Jawa Timur	141.199
2	Sumatera Utara	2.093	12	Bali	105
3	Sumatera Barat	713	13	Kalimantan Barat	31
4	Sumatera Selatan	109	14	Kalimantan Selatan	135
5	Bengkulu	246	15	Sulawesi Selatan	1.784
6	Lampung	266	16	Papua	30
7	DKI Jakarta	3.710	17	Bangka Belitung	82
8	Jawa Barat	117.060	18	Banten	7
9	Jawa Tengah	134.060	19	Gorontalo	12
10	DI. Yogyakarta	6.102			
				JUMLAH	407.767

Source: General Direktorat of Livestock (2010)

Dairy Population & Milk Production

- ❑ In 2010 dairy population is 407,767 head, mainly in Java
- ❑ Milk production is 682,120 ton/year
- ❑ Almost 90% of milk is distributed to big dairy industries, only 10% distributed to small milk processor.
- ❑ Local milk production is only 20-25% of total demand

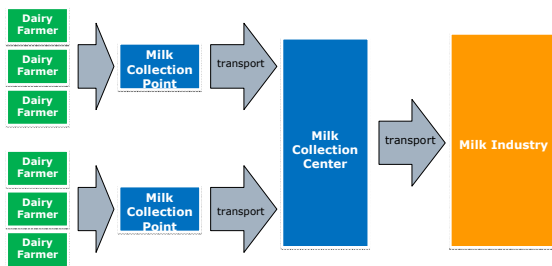
Milk Processing

- Demand of fresh milk products increase
- Major dairy industries in Indonesia:
 - Nestle,
 - Friesien Flag,
 - Indomilk,
 - Ultrajaya,
 - Sarihusada, and
 - Danone
- Major problem is low milk quality

Current Condition

- Low milk quality:
 - Low fat and protein due to low feed quality
 - TPC > 1 millions
 - Milking management
 - Milk handling
 - Quality of cooling unit
 - Other reasons:
 - The distance between farmer and cooling is sometimes far
 - Sometimes road conditions are poor
 - Transportation condition

Milk Collection From Farmer to Milk Industry



Milk collection point

- There are several hundred milk collection points
- Farmers take their milk to the milk collection point
- There are alcohol and density checks
- Milk is transported to cooling center by truck



Milk collection center

- Every cooperative has a cooling center
- There they check the quality
 - Total solid, SNF, Fat, Protein, Density
- Transported to the factories with tanker



Technical Guidlines

- Milk Collection Center:
 - Walls and floors should be water-resistant (porcellen)
 - The ceiling is made of materials that do not pollute the milk
 - Door and window can close itself freely and widely shutters maximum 15% of floor area.
 - Has good ventilation
- Milk Cooling Unit
 - Tank specification
 - Cooling unit (Refrigerator unit)

In the future:

- Improve milking management and milk handling
 - Equiped by portable milking machine
 - Improve road infrastructure
 - Build small cooling units in villages
 - Milk price incentives
-

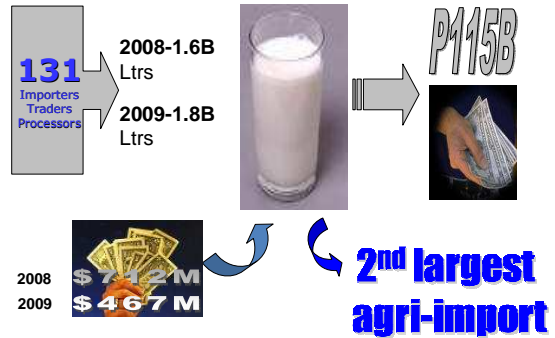
Thank You

NICHE MARKETING IN THE PHILIPPINES



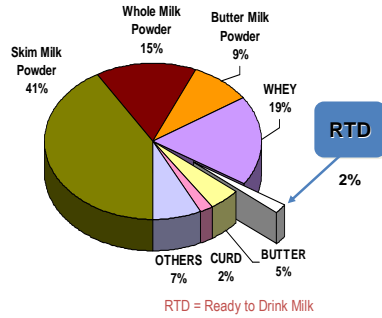
DANILO "DANNY" V. FAUSTO
 National Chairman, Dairy Confederation of the Philippines
 Chairman, Talavera Dairy Cooperative, Inc.
 President, DVF Dairy Farm, Inc.
 District Governor RY 2007-2008, Rotary International District 3780

The Local milk market



Milk & Dairy Products Import Philippines, 2008

- Volume of total import in LME = 1.77b liters
- Import is 84% Powdered Milk
- Annual Import = US\$720.00



What is our Industry Sufficiency Status (2008M)

COMMODITY	TOTAL SUPPLY	TOTAL LOCAL PRODUCTION	IMPORT	% SUFFICIENCY
Chicken (meat)	1,262.00	1,213.49	49.15	96.1
Pork	1,682.00	1,603.00	79.38	95.3
Beef	176.30	118.00	58.33	67.0
Carabeef	123.62	61.63	61.99	49.9
Dairy	1,753.10	13.23	1739.87	2.0

Source: BAS

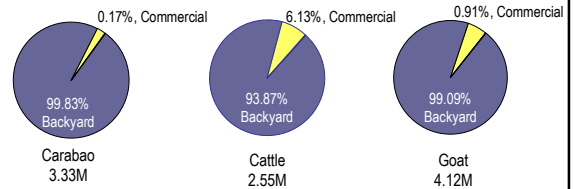
We import ruminant-derived products' !

Philippine Dairy Industry

Particulars	2008	2009
Livestock population (head)	10,079,313	10,108,862
Cattle	2,566,492	2,565,662
Carabao	3,338,570	3,320,966
Goat	4,174,251	4,222,234
Total dairy herd (head)	28,191	29,593
Cattle	13,864	15,073
Carabao	13,416	13,594
Goat	911	926
Total dams and does	13,739	14,265
Cattle	6,371	6,871
Carabao	6,898	6,922
Goat	470	472
Dairy Farm Families	14,405	15,212
Primary Dairy Cooperatives and Institutions	317	347

12/22/2010

Ruminants are with the Small Holders



Improving Ruminant Production in the Philippines is a **SOCIAL AGENDA**

- Achieving growth and food security
- Reducing rural-urban income disparities and rural poverty



DVF DAIRY FARM



Milk Collection



Dairy farmer delivering milk at the plant

Centrifuge mounted on tricycle



Quality Control & Processing



Testing of Fresh Carabaos Milk



Pasteurizing & Homogenizing

Packaging

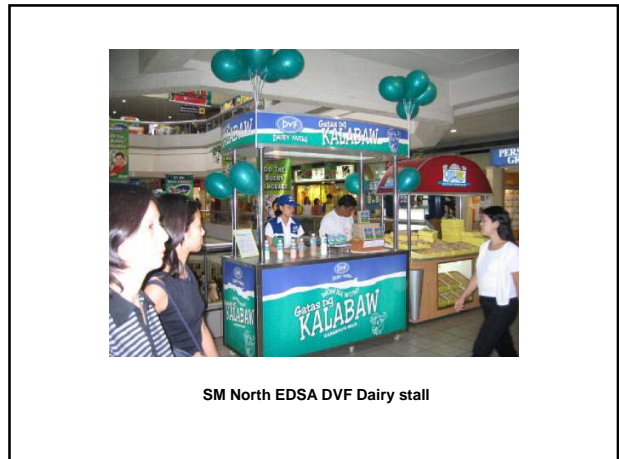


Filling Milk in Bottles



Packaging of Carabaos Milk





How does carabao's milk compare

Milk Source	Cow	Carabao	Difference %
Fat (%)	4.30	7.90	83.72
Total solids (%)	13.10	16.30	24.43
Protein (%)	3.60	4.20	16.67
Lactose (%)	4.80	5.00	4.17
Tocopherol (mg/g)	0.31	0.33	6.45
Cholesterol (mg/g)	3.14	0.65	-383.08
Calcium (mg/100 g)	165.00	264.00	60.00
Phosphorus (mg/100 g)	213.00	268.00	25.82
Magnesium (mg/100 g)	23.00	30.00	30.43
Potassium (mg/100 mg)	185.00	107.00	-72.90
Sodium (mg/100 g)	73.00	65.00	-12.31
Vitamin A (incl. Carotene) IU.	30.30	33.00	8.91
Vitamin C (mg/100 g)	1.90	6.70	252.63



Philippine Advantages

- Close proximity to major cities allows fresh milk & premium cheese, yogurt & ice cream within a 5-6 day cold chain
- Large river-fed plateaus & high rainfall provide largest grazing resource in East Asia
- Large rural labor force benefits, while keeping costs low

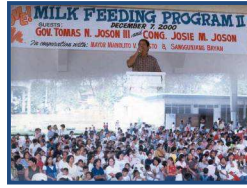
18

MALNUTRITION... erodes the future generation



Out of 12 M children
ages 2-10:
About 69%
malnourished

Local Government Units Participation



Milk Feeding Program

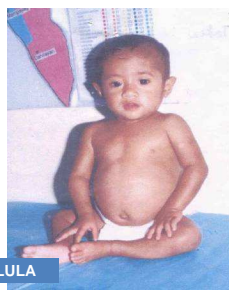
THE MAGIC OF MILK FEEDING

BEFORE
October 2003
Poblacion, Manolo Fortich



ANGEL GRACE GALULA

AFTER
December 2003
Poblacion, Manolo Fortich



*Thank
You!!!*

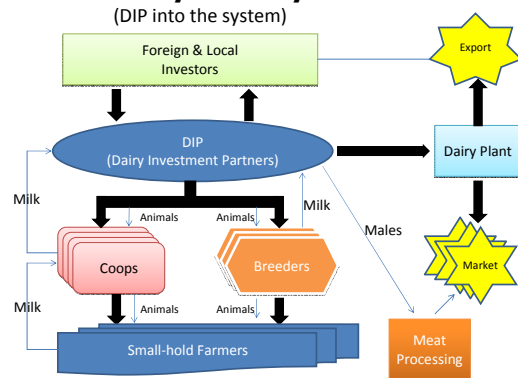


Planned Expansion Stages

- 1st round expands herd 10x, sets down **new operating systems**
 - Improves **breeding technology**, Starts **community-building** programs
 - Continues **building cooperatives** & Training programs for next phase
- 2nd round expands 10x again, begins **franchising** operations
 - Extends **export** business with both brand-building & bulk supply
 - Prepares groundwork for **inter-ASEAN franchising** to expand benefits

Locations:	Luzon	Philippines: Luzon + Mindanao	Philippines: nation-wide		
Head:	~900	~9,000	~60,000	~95,000	~155,000
SH Farms:	25	750	6,200	8,400	18,800
Dairies:	1	7	52	97	200
Cash Paid to Farmers:	\$ 25 mn	\$ 190 mn	\$ 320 mn	\$ 670 mn	Farmers earn >1/3 of available value
Farmer Herd Equity:	\$ 0.33 mn	\$ 25 mn	\$ 42 mn	\$ 88 mn	
NAY:	\$2 mn	\$33 mn	\$250 mn	\$430 mn	4900 gm value
	2010	2012	2014	2017	2020

DVF Dairy Farm System



Value Chain Coordination for an Efficient Dairy Sector

Bram Wouters
Wageningen UR Livestock Research



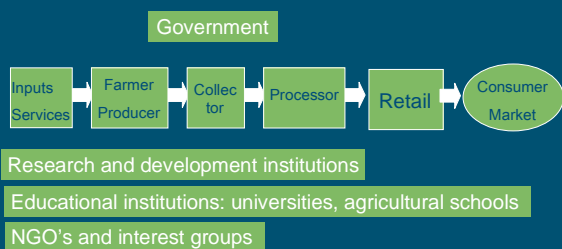
LIVESTOCK RESEARCH
WAGENINGEN UR

Context and objective

- Drivers for value chain coordination
- Issues related to efficient value chain coordination
- Examples of dairy value chain coordination

LIVESTOCK RESEARCH
WAGENINGEN UR

Key Actors and other Stakeholders in the Value Chain



LIVESTOCK RESEARCH
WAGENINGEN UR

What could be drivers for chain coordination

- Platform, network for private sector/ government (pricing)
- Advocacy/ advising regarding sector/ value chain policies
- Regulation of the value chain, delegation of government responsibilities: licensing, enforcement of regulations
- Addressing issues of common interest including funding: milk quality, research and development , services
- General promotion of consumption of milk and dairy products (general promotion)
- Implementation of development activities (NDDB, India)

LIVESTOCK RESEARCH
WAGENINGEN UR

Issues related to efficient chain coordination

- Defining common goals
- Defining tasks and approaches of coordination body
- Representation: role of government/ private sector/ enabling organisations
- Organisational set up
- Legal status and mandate
- Funding activities

LIVESTOCK RESEARCH
WAGENINGEN UR

Example of Dutch Dairy Board

- Legal body: product board under government supervision
- Implements delegated responsibilities of government (implementation regulations, market regulations, licensing etc.)
- Governed by actors in the chain (farmers, processors, labour unions)

LIVESTOCK RESEARCH
WAGENINGEN UR



FrieslandCampina

As Royal FrieslandCampina we reach millions of people in more than one hundred countries around the world, with our milk products, cheese, butter and ingredients. We are fascinated by the power and potential of milk. We aim to help people to move forward by getting more out of milk. We have more than 130 years of commitment to sustainable dairy. As a co-operative, we are a team and can depend on one another.

Our FACT

EUR 8.2 billion annual revenue
30+ well known brands
21,000 employees in **100** production and sales locations in **27** countries
11.4 billion kilograms of milk processed
16,000 member dairy farms, supplying **8.6 billion kilograms** of milk annually
Number 1 dairy co-operative in the world

Consumer brands

Ingredients

Professional brands

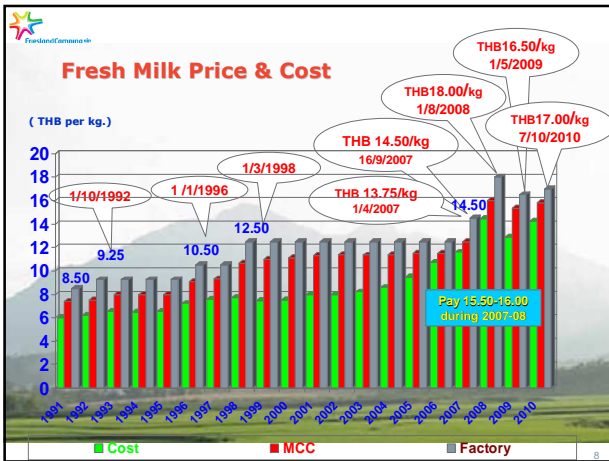
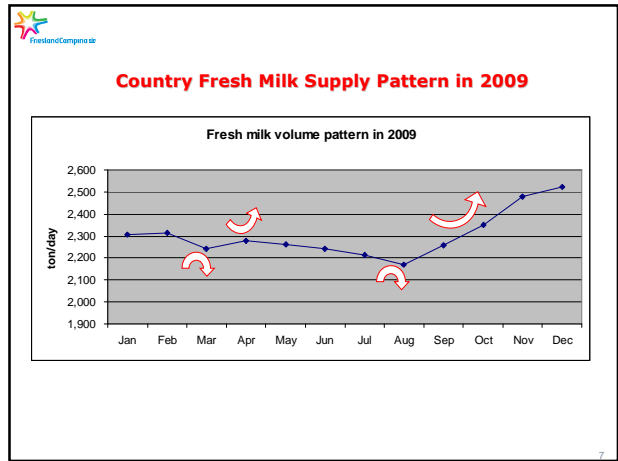
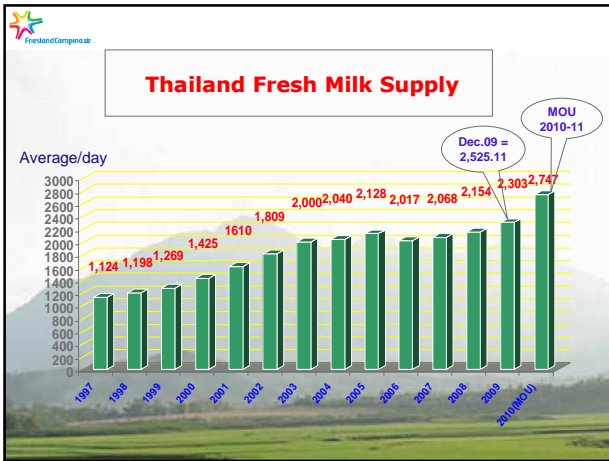
Friesland Foods Foremost (Thailand) PCL.
Head Office: No. 388 6th Floor, S.P. Building
Phaholyothin Rd., Samsennai, Phayathai, Bangkok
Telephone: +662 620 1900 Fax: +662 273 0214

Foremost Dairies (Bangkok) Co., Ltd.
Laksi Plant: No. 99/30 Moo 2 Changwattana Rd.,
Thugsonghong, Laksi, Bangkok
Telephone: +662 576 0030 Fax: +662 576 1408

Friesland Foods Foremost (Thailand) PCL.
Samrong Plant: No. 89/2 Moo 8 Soi Watsunsom
Phuchaosamingprai, Prapadaeng, Samutprakarn
Telephone: +662 183 2793 or 183 2800 Fax: +662 183 2803

Company History

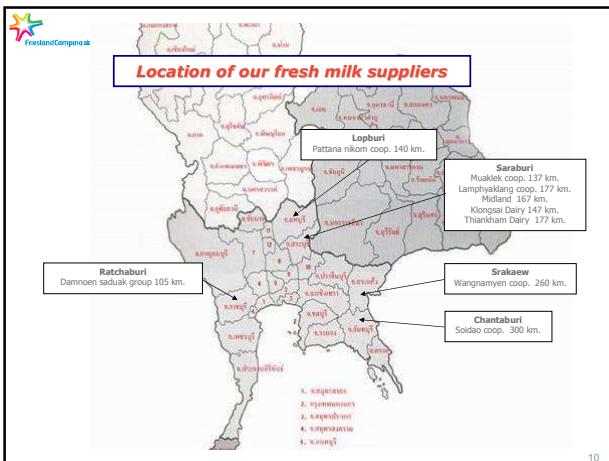
- 1967** Phranakorn Milk Industry Co. Ltd. Acquired Alaska 100% Owned by Milk Industry Ltd. CCF, SCM & EVM
- 1978** Exports to Singapore, Hong Kong, Taiwan, Laos, etc.
- 1980** Joint venture with Sandoz Nutrition Ltd. by holding 20% shares in Novartis Nutrition (Thailand) Ltd.
- 1984** Sold ice-cream business to Unilever, to focus on core strength in milk products.
- 1987** Launched UHT Drinking Yoghurt "Yomost" Manufactured of UHT "Ovalline"
- 1989** Distribution of "UHT Ovalline" in January.
- 1992** Product diversification with launch of UHT Milk (Main Business: Ice-cream Minor Business: Fresh dairy products)
- 1993** Withdrawal from The Stock Exchange of Thailand and Certified HACCP by SGS Thailand
- 1994** Became a public company limited.
- 1997** Changed of % shares holding in June: Friesland International S.V.: 74.49%, Thai Nationals: 25.51%
- 1999** Certified GMF by Thai FDA
- 2004** Launch Foremost SPARK
- 2005** Changed of company name to Friesland Foods Foremost (Thailand) PCL
- 2006** Re-launched of Calcimex Implement WCOM
- 2007** Be the first dairy company who is certified ISO 22000: 2005 by SGS Thailand in November Launched of Calcimex Beaulife in August
- 2008** Grand opening of the new fresh milk reception facility at Samrong Plant
- 2009** ALL ABOUT FOREMOST



MOU 2010-11 (effective Oct,1 2010 – Sep,30 2011)

Fresh milk ; (ton/day)

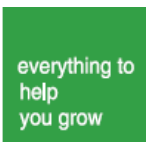
Total Country	2,747.23
For School milk	1,343.66 (School milk budget=1,211.47)
For Commercial	311.45
For Skimmed milk quota	1,092.12





“A healthy start for a better milk”

by Marc Spackler, marc.spackler@frieslandcampina.com





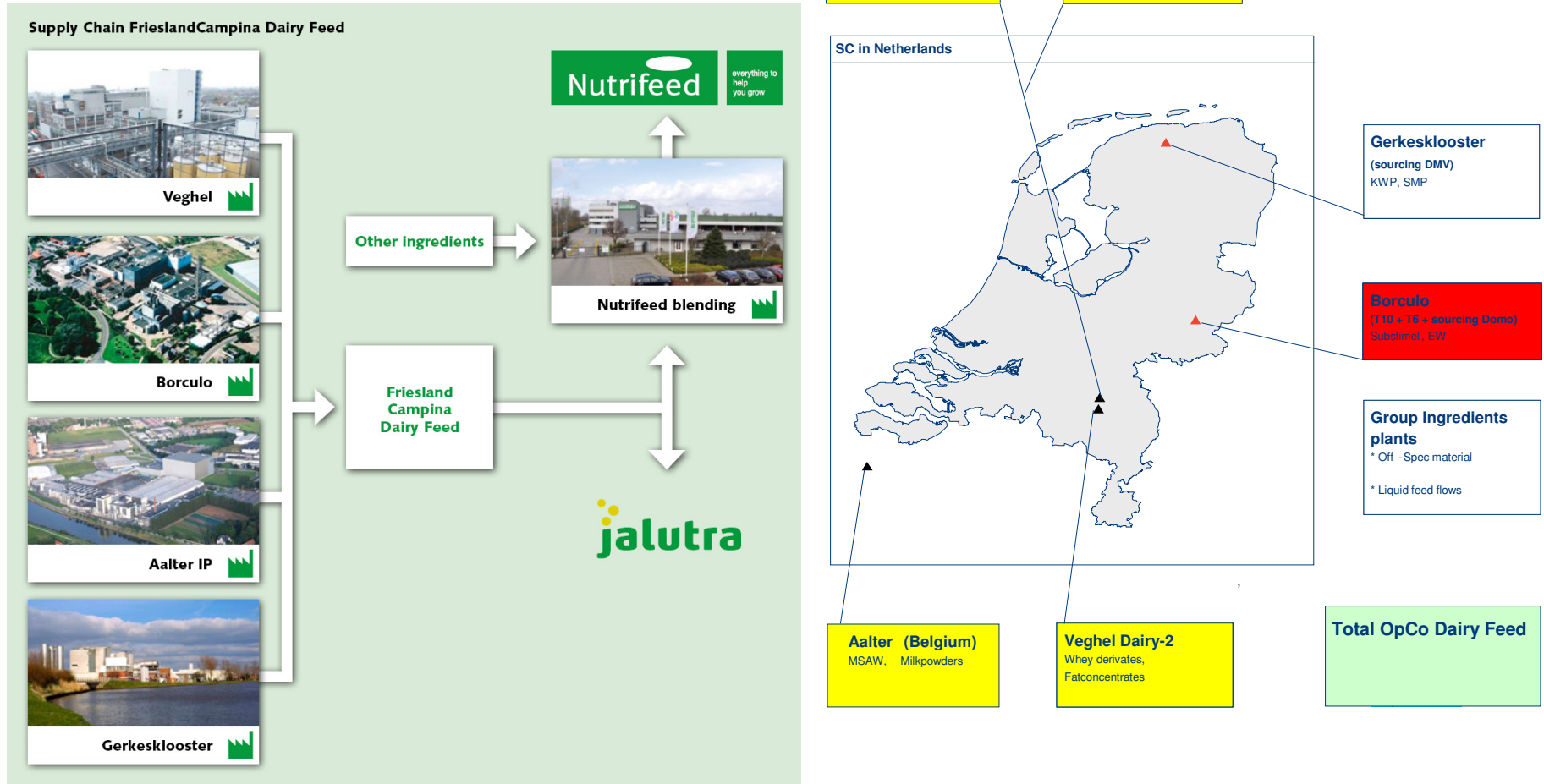
Strategy business groups

Consumer Products Western Europe	Consumer Products International	Cheese & Butter	Ingredients
Enlarge branded home market activities	Enlarge international consumer business	Defence actual market	Create new opportunities





FrieslandCampina Dairy Feed supply chain





Calf rearing: what's important?

- Healthy start: no diseases/mortality
- Optimal growth
- Rumen development





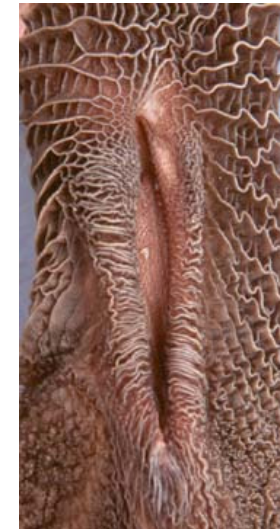
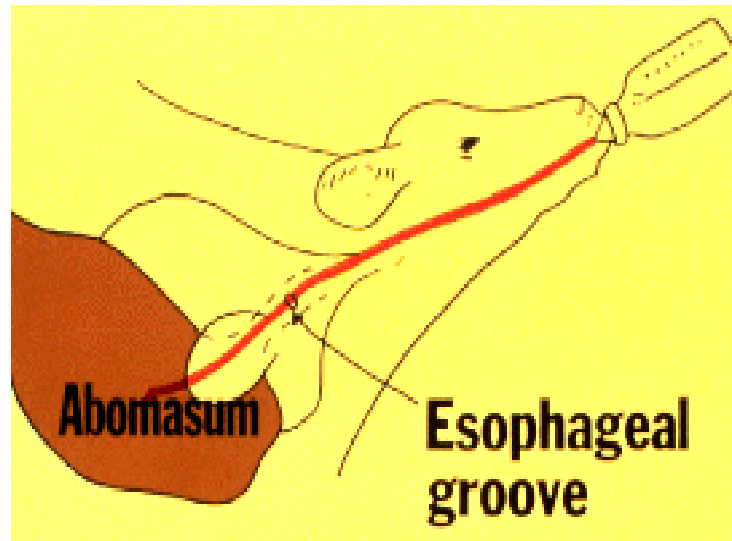
1) First things first: Colostrum

- 1st hour after birth, 1st feeding
- 10% of birth weight in 24 hour
- Not warmer than 40 °C
- First 2-3 days after birth
- Farm specific colostrum: Ig's





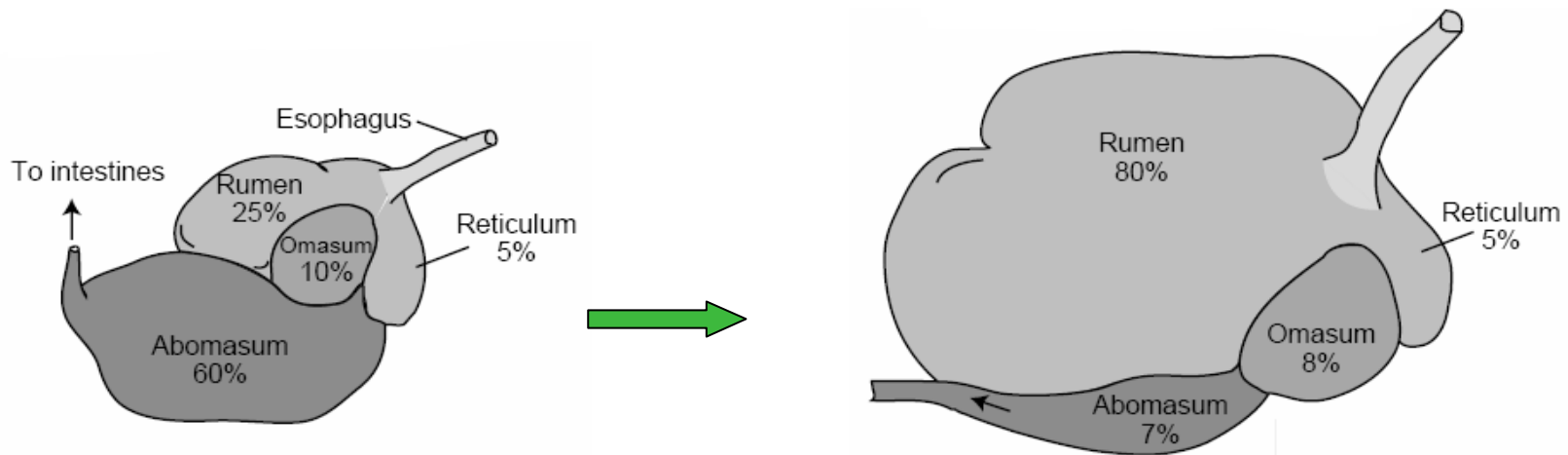
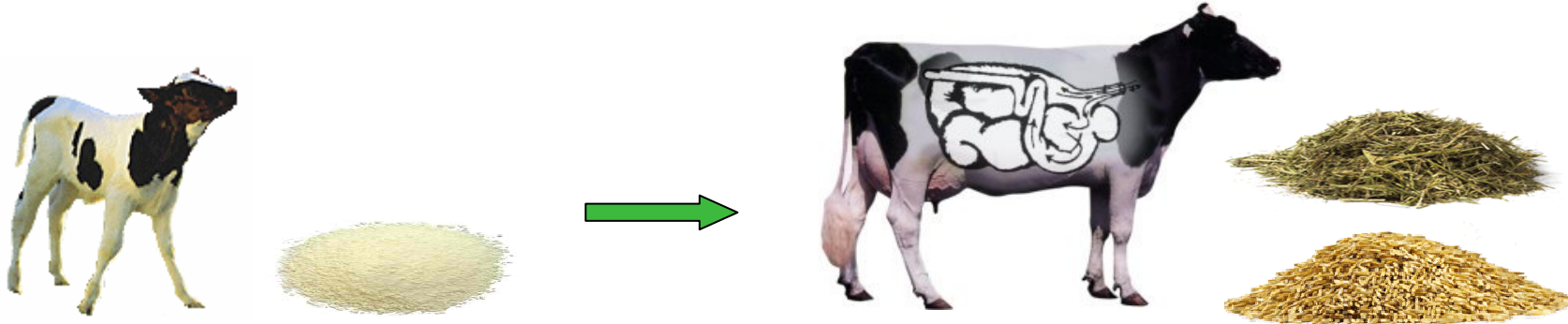
2) Temperature and concentration



- Direct flow of milk in abomasum
- Dependent on sucking, temperature (38 - 40 °C), concentration (125g/l)



3) Rumen development





4) The effect of fresh water on technical results of rearing calves (0-4 wkn)

	Water	No water
Growth, gram/day	309	180
Concentrate intake, kg	11.8	8.2
Diarrhoea, days/calf	4.5	5.4





5) Nutrifizz: Effervescent tablets

- Prevents dehydration (transport, fecal disorders)
- Essential minerals plus Imagro® health concept
- Restores fluid and salt balance
- High-energy carrier for energy boost: Lactose!



Whole milk.....

.....or CMR





Why CMR?

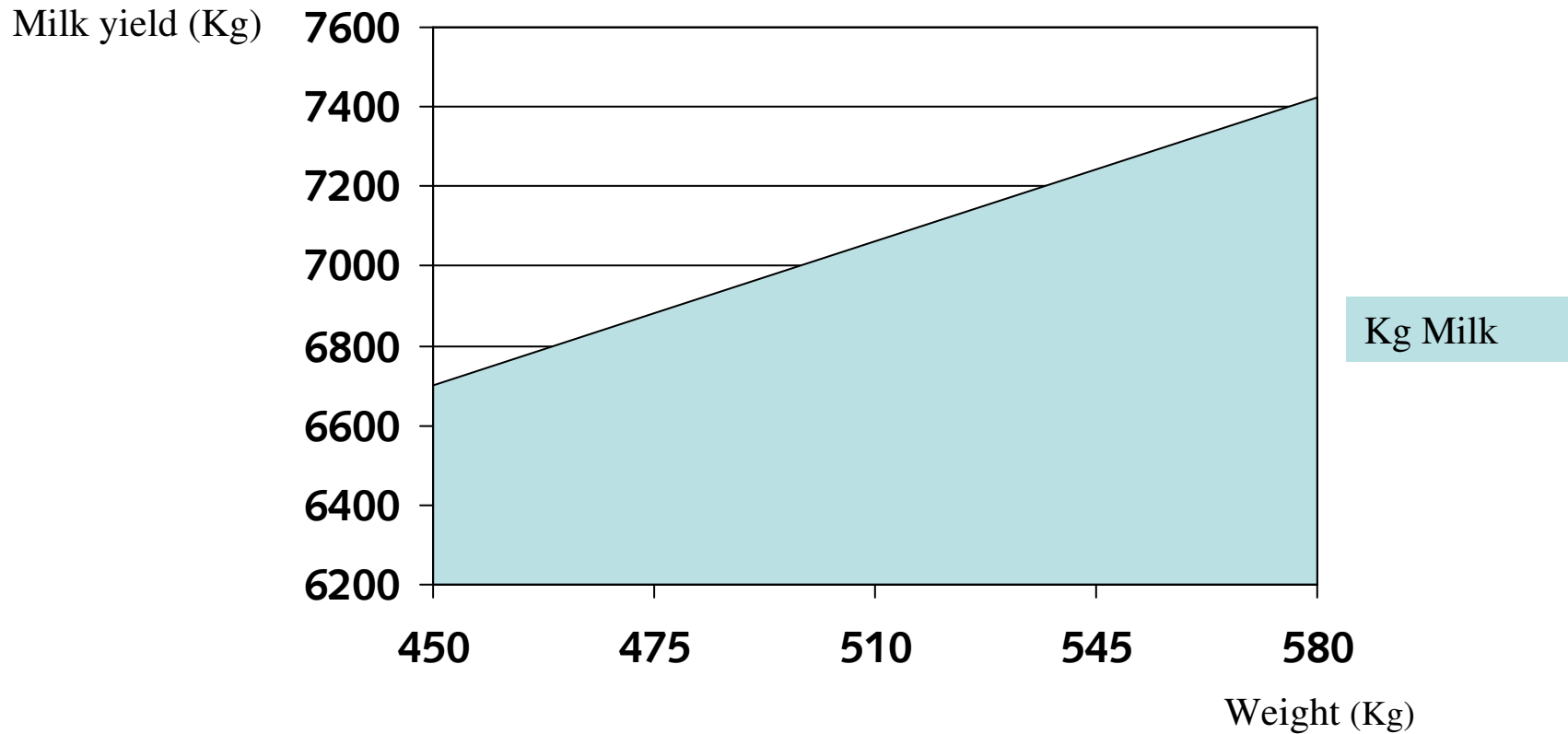
- Cost efficient
- Composition (cow milk too high in fat and protein, too low in minerals-vitamins and no health stimulating additions like Imagro, lactoferrin, GOS)
- Big variation in composition of rejected milk
- Vertical transmission of disease factors
- Antibiotic resistance





Relation between weight at first partus and milk yield

Milkyield first lactation





Better Rearing pays off

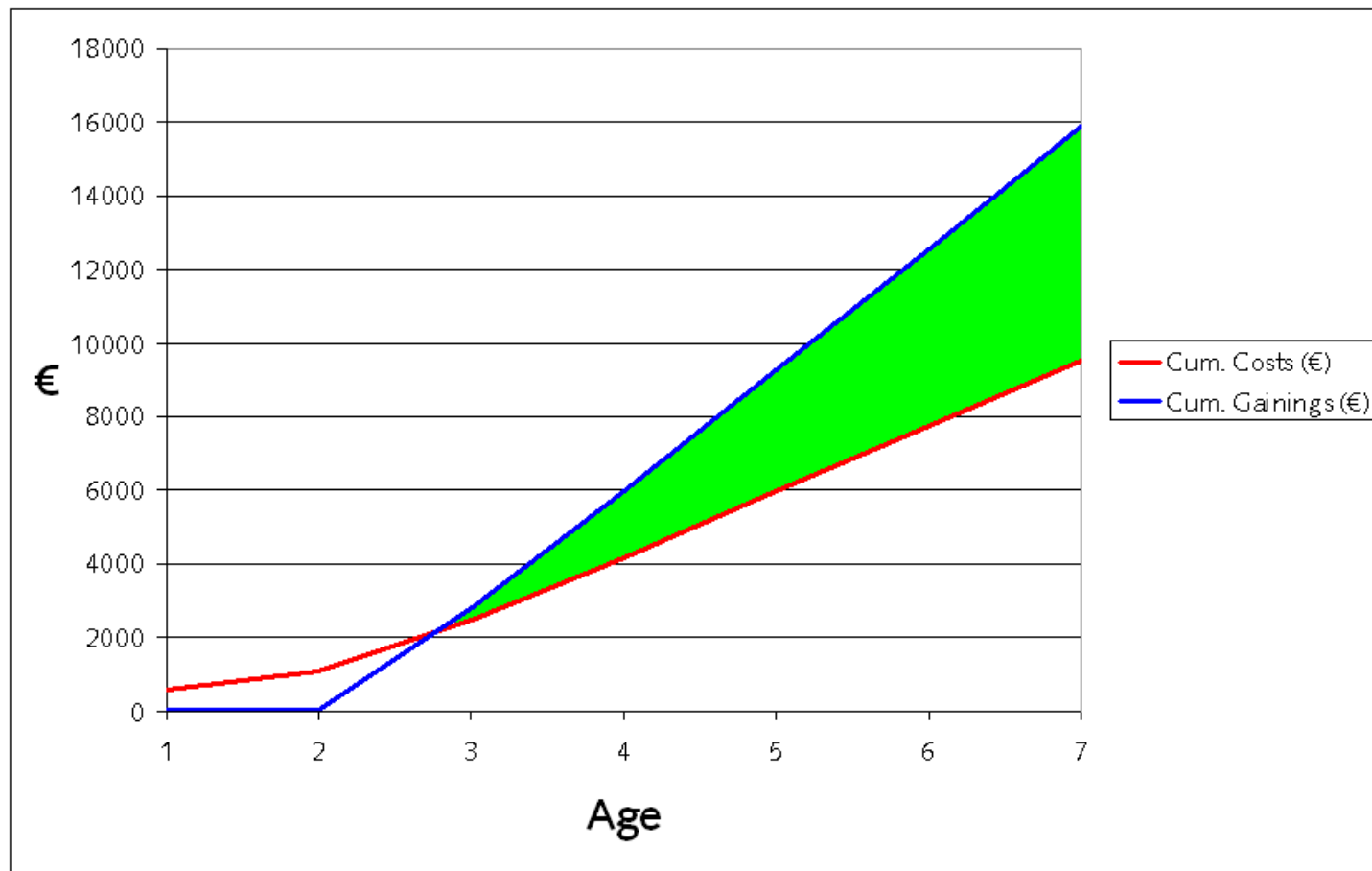
Body weight	% cows present			Milk yield			Age	Weight
	1. Lact.	2. Lact.	3. Lact.	1. Lact.	2. Lact.	3. Lakt.	1. Insem.	1. Insem.
6 Months								

Rearing costs in relation with milk yield

Life production	Rearing costs/Liter Milk	% Replacement
17.000 L.		
23.000 L.		
27.000 L.		
33.000 L.		




Costs/gains





Example Thailand

 Nutrifeed everything to help you grow	USAGE
Isilac <ul style="list-style-type: none">• own dairy• spray dried fat• Imagro• premium from 21 days	colostrum 3 weeks cow milk 7 weeks Isilac Weaning at 10 weeks
Kalvolac-Kalvostart <ul style="list-style-type: none">• More & own dairy• 40% of the fat is coconut oil• Physical excellence• Lactoferrin + nutritional emulsifier• Imagro• hydrolysed wheat protein spray dried	No cow milk → Kalvolac after colostrum Super premium after colostrum Early weaning at 8 weeks



	Isilac			Kalvostart + Kalvolac			Cow's milk	
	powder price farmer/kg			powder price farmer/kg			PRICE farmer/l	
Feeding schedule	litres/day	price	price	litres/day	price	price	litres/day	price
DAY 1-2		cow's milk	CMR		cow's milk	CMR		cow's milk
DAY 3-4								
DAY 5-7								
Day 7-10								
Day 11-14								
Week 3								
Week 4								
Week 5								
Week 6								
Week 7								
Week 8								
Week 9								
Week 10								
		Isilac			Kalvostart		cow milk	



Economic versus super premium CMR

	Eco	Premium
ADG, day 0 – 21 (g/day)	435	562
ADG, day 0 – 56 (g/day)	520	729
Medicines (% calves)	48	12
FCR, day 0 – 56	2.02	1.85
Concentrate intake (kg)	8.0	17.6

Nutrifeed research



The Netherlands: synergy between Nutrifeed & RFC member farmers





CPI: synergy between Nutrifeed & RFC Thailand/Foremost



the Friesian
dairy development company

Dairy Expert Roundtable meeting, Muak Lek, Thailand

Competitive Dairy Value Chains in
South-East Asia
Asian dairy: Gain or Pain?

December 2010

Mr. Siebren van der
Zwaag, DVM
Director

Dairy Development SE-Asia

Some positive experiences in Indonesia

"Seeing is believing"



"Time for changes"





"Result oriented means
team work"



"Learning by Doing
principles"

the Friesian

About The Friesian

the Friesian
dairy development company

- ▶ 2001: Established at Leeuwarden, The Netherlands
- ▶ 2003: Extension of team and its activities
- ▶ 2010: 8 staff members + associated experts
- ▶ Implementation: 250 Agricultural projects in 41 countries
- ▶ Core business: Professional dairy development in small scale - medium scale - large scale
- ▶ Focus: Vietnam, Indonesia, China, Nigeria, Russia, Ukraine, Balkan- and Middle-East regions.

www.thefriesian.nl

Dairy ASIA: 'gain or pain'

- ▶ **First (inception) phase**
- ▶ ACTIVITIES: investigations.....
 - Partners, Authorities & (local) government
 - Project location(s)
 - Infrastructure & logistics
 - Regional information

the Friesian



Results performed



- › Second phase: Implementation of program
- › Selection and training of local staff
- › Selection of demonstration sites
- › Change of hardware (f.e. barn equipment)
- › Use of analyze equipment and data registration
- › Implementation of new farm development and strategies!



Start: always select a motivated team of experts!



Transfer of knowledge: theory and practise



Introduction of other technology and hardware



Old farming situation!



New dairy situation: cow comfort and.....improved working circumstances for animals and people



Input latest techniques: analyse equipments for SCC



Discussions and demonstration to local farming families



On-farm talks between Producers and Processors: its all about Cost reduction & Food Safety!

Result oriented



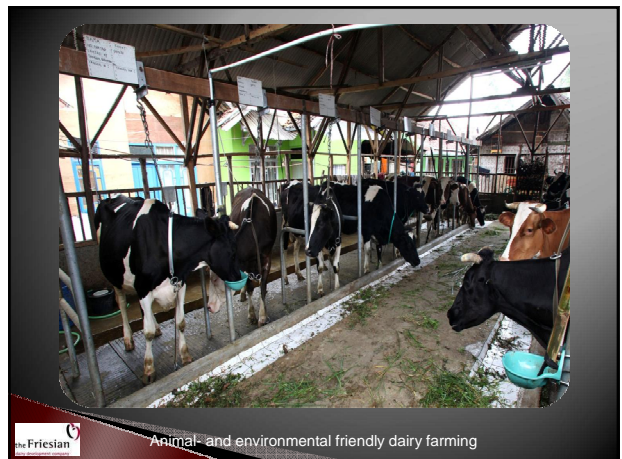
- ▶ **Major Result:** Better & efficient daily dairy farm management routines, wherein milk quality thus **food safety** for consumers safeguarded by all working in the dairy chain!

Herein: care for.....

- ▶ Animal Welfare
- ▶ Environmental protection (aim for: energy-neutral)
- ▶ Working circumstance people
- ▶ Profitability = income for all working in the dairy chain!



Farmers copy new technology and inputs



Animal- and environmental friendly dairy farming



Learning aspects

the Friesian
business development company

- ▶ Only accept 'Reliable partners'
- ▶ Recognize but accept cultural differences
- ▶ Input of realistic budgets & availability credit facilities
- ▶ Remember: Developments in dairy are always on the long-term (min. 2 to 5 years)
- ▶ **Practical** implementation (f.e. + visit to the Netherlands)
 - "Learning by doing aspect"
 - "Seeing is believing aspect"

Prosperous Dairy Future

'NO GAIN WITHOUT PAIN'

Only professionals can do the job!
Contact us: www.thefriesian.nl

Nutreco Profile

Where about | 22 December 2010



1

Nutreco – who we are

- A leading global player in animal nutrition and fish feed
- Founded in 1994 and a public company since 1997
- Net sales in 2009 EUR 5.1 billion
- Over 100 production and processing plants, sales in more than 80 countries
- Multinational workforce of 10,800 employees
- Nutreco ranks the top of the global animal nutrition industry: No. 3 in revenues No. 6 in volume



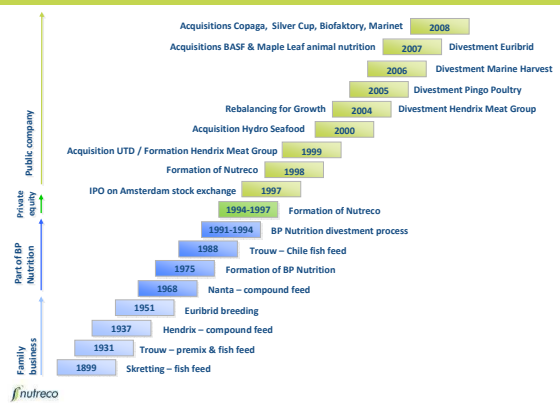
2

Nutreco: Global player Dairy Feed Industry



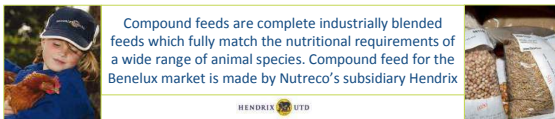
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Nutreco – where we come from



4

Compound feed West Europe – Hendrix UTD



Facts

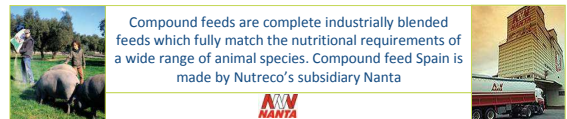
- Total annual volume 2.4 million tonnes
- Top player on the Benelux, market share of 12%
- 9 large compound feed plants in the Benelux
- Workforce of over 700 employees

Global presence



5

Compound feed Spain – Nanta



Facts

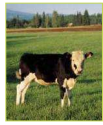
- Total annual volume of 2.5 million tonnes
- Market share of 14% in Spain
- Within Spain and Portugal 15 production facilities
- Workforce over 600 employees

Global presence



6

Animal nutrition Canada



In 2007 Nutreco acquired the Canadian animal feed brands Shur Gain and Landmark Feeds from Maple Leaf. Both brands have a wide product range including base premixes, protein premixes, concentrates and compound feeds.



Facts

- Overall market share of 23% in Canada
- 16 Animal feed production facilities
- Workforce of over 1.050 employees

Global presence



Premixes and specialties



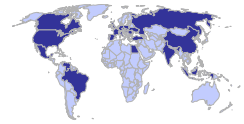
Premixes are ingredients for compound feeds consisting of micro-ingredients. Specialties are animal feeds for specific animal groups such as young animals. Premixes and specialties are produced by Nutreco's subsidiary Trouw Nutrition International (TNI)



Facts

- Total annual volume over 1 million tonnes
- Global market share of 12%
- 21 Production facilities in Europe, USA and Mexico
- Workforce of over 2.500 employees

Global presence



Fish feed



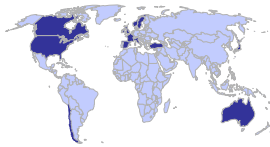
Nutreco's fish feed subsidiary Skretting distinguishes four types of fish feed products: feed for brood stock diets, juvenile feed, grower diets and special diets. The company has a comprehensive range of diets available to suit all needs of the farmer – from low volume speciality diets for fry and smolts to high volume grower



Facts

- Total annual volume of 1.4 million tonnes
- 75% Salmon feed volume, 25% other fish volume
- Market share in salmon feed close to 40%
- 16 Production facilities in all major regions
- Workforce over 1.400 employees

Global presence



Nutreco R&D – Research Facilities



Calf Research Centre

Ruminant Research



Skretting Aquaculture Research Centre



Swine Research Centre



Food Research Centre



Research Feed Plant



Nutreco Canada Agresearch



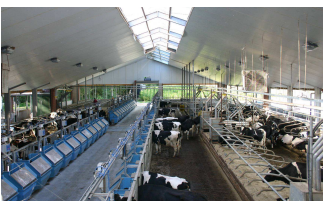
Poultry and Rabbit Research Centre

Nutreco R&D

Ruminant Research

Netherlands (Boxmeer)
"De Kempenshof"

Canada (Burford)
"Agresearch"



Nutreco innovations and concepts

- Kempen system
- Transition concept
- Fresh cow concept
- Newton feed evaluation

KEMPEN SYSTEM

Feeding system based on free intake of hay and complete feed

KEMPEN SYSTEM

Program

- Research on Nutreco Research Farm "Kempenshof"
 -
 -
- Results and experiences from practical dairy farms
 -

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KEMPEN SYSTEM

Research Farm de Kempenshof

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KEMPEN SYSTEM

- Feedingsystem based on free intake of hay and concentrates
- "Healthy cows with increased Lifetime Production"
- "More milk with less labour"
- "Financial profit mainly dependent on opportunities for utilization of land and labour"

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Transition management

The key to dairy performance !

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Transition period ?

drying off calving

↓ ↓

End lactation	Far off period	Close-up period	Fresh period	Peak production
	- 6 wk	- 3 wk	0 dg	4 wk

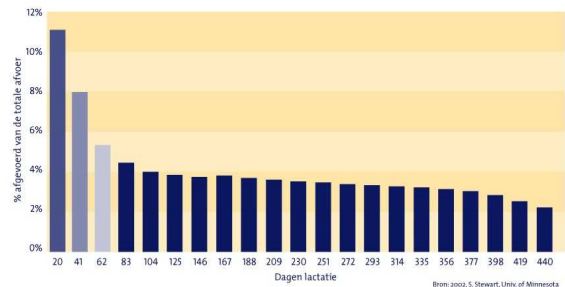
← TRANSITION PERIOD →

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Why focus on Transition period ??

- ± 80% !! of the problems during early lactation are related to dry period:
 - Metabolic disorders
 - Mastitis
 - Lameness
 - Fertility
- ± 25% of the cullings take place <60 days in lactation
- Dry cows get only ± 20% of the attention

Transition Period most critical period of the lactation cycle !



During the first 60 days already 25% of total culling takes place

Objectives Transition period

- Optimise Udder health
- Maximise Dry Matter Intake
- Minimise Negative Energy Balance
- Stimulate Rumen function
- Prevention Milk Fever and hypocalcaemia
- Optimise Immune status
- Minimise Stress
- Healthy start lactation



Fresh Cow Concept

- What is Fresh Cow Concept ?
 - ✓ Management and Feeding concept for Fresh Cows (0-25 days) with the goal to minimize NEB/Δ BCS
 - ✓ Special Feeds with all the "goodies" for fresh cows
- Benefits ?
 - ✓ Improved BCS (decrease BCS after calving 0,5 BCS)
 - ✓ Healthier cows / Improved immunity and fertility
 - ✓ Lower culling rate
 - ✓ Increase in Lifetime production



Conclusions

- Nutreco global leading company in Agriculture and Aquaculture
 - In SE Asia present in China, Indonesia, Philippines, Thailand, Vietnam, Malaysia, Korea, Japan, India, Pakistan.
- Ruminants no 1 in our business
- Much focus on R&D and innovation
- Not only feed development but total management concepts.
- Examples:
 - Kempen, Fresh Cow, Transition and Newton

Thanks for your attention and a lot of succes!

Dairy Products and Production in Myanmar

Dairy expert roundtable meeting
Competitive Dairy Value Chains in Southeast Asia

Dr. Khin Hlaing, Secretary
Myanmar Dairy Association
Myanmar Livestock Federation

8 and 9 December, 2010
Muak Lek, Thailand

Background

- In 19 centuries, a large population of Indian people came to work to Myanmar and carried Indian breeds of dairy cattle.
- In 1958, ARDC imported over 400 exotic breeds of cattle such as Sindhi, Thari, Haryana and Tharparkar from Pakistan.
- In 1978, pure bred Friesian and Jersey in total number of 214 were imported from the New Zealand and Australia.
- A milk processing plant of 30,000 Kg capacity was established in 1983 in Yangon.
- A second milk plant was set up near Mandalay under Co-operative Ministry in 1985

ARDC: Agriculture & Rural Development Corporation (Government Institution)

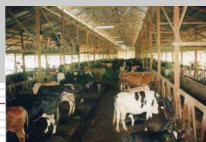
Milk Consumption Habit

- Myanmar people like to take milk in the form of tea or coffee.
- Urban population take more milk than rural people.
- Milk in Tea and coffee is from condensed milk (Imported or local).
- Milk products in Myanmar are pasteurized milk, yoghurt, butter, butter oil, cheese, dry flakes of milk, ice cream etc.
- In addition, milk is used in a large quantity in confectionaries such as biscuits cookies and a variety of cakes.

Cattle production systems

Cattle population- 13.1 million,
Dairy Cattle - 0.5 million
Most of them are Drought Cattle.
Common Dairy Breed is Friesian Crossbred.

- Maximum milk yield: 24 Kg per day per head
- Average milk Yield: 5 Kg per day per head



Dairy Cows in States and Divisions, 2007

State/Division	Number of Dairy Cow	Percentage
Mandalay	243500	47%
Sagaing	62200	12%
Shan	51800	10%
Yangon	46500	9%
Bago	46600	9%
Magway	36250	7%
Other 8 S/D	31328	6%
Total	518178	100%

Dairy Production

- In 2006-2007, Myanmar produced about 1 Million ton of fresh milk.
- There were about 440 processing plants in Myanmar and processing 2240 MT of milk products daily.
- Per capita consumption of milk was 23.0 Kg in 2008-2009.
- Sweetened condensed milk is produced in large quantities and mainly produced in Mandalay and Sagaing Divisions.
- The biggest dairy plant in Myanmar is Myabuyin Dairy Plant, Kyaukse and handling about 60,000 Kg of milk a day.
- In 2009-2010, 43270 MT of milk powder and condensed milk were imported through normal and border trade.

Yearly statement of imported dairy products into Myanmar

Year	MP (MT)	SCM/EM (MT)	Total Volume (MT)	Total Value (Million \$)
2007-2008	6046.81	33082.75	39129.56	35.94
2008-2009	1604.38	36317.71	37922.09	41.03
2009-2010	5115.01	38154.68	43269.69	45.91
2010-2011 Up to July	1824.73	11993.95	13818.68	15.25

Source: Ministry of Commerce

MP : Milk Powder
SCM: Sweetened Condensed Milk
EM : Evaporated Milk
MT : Metric Ton

Myanmar Dairy Association

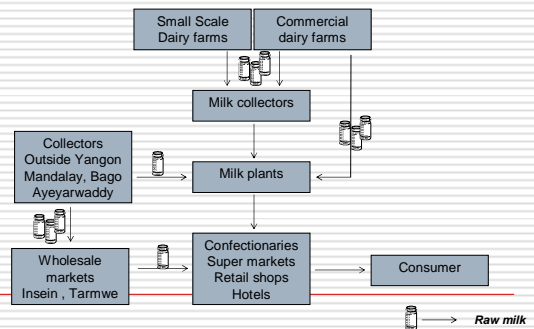
- Established, 26th August 2004 under Myanmar Livestock Federation
- Eleven CEC members in Myanmar Dairy Association
- Chairman: Dr. Mya Han and Secretary: Dr. Khin Hlaing
- Five State & Divisional Dairy Associations formed.
- About 1200 number of members through out Myanmar.

Myanmar Dairy Association

Objectives

- To increase per capita milk consumption in Myanmar by promoting milk production.
- Participate and co-operate with LBVD and other departments to increase genetic potential of cow, pasture development and cattle disease control.
- To produce hygienic dairy products and to establish sustainable dairy market.
- To substitute imported item with value added Myanmar dairy products.

Fresh milk supply chain, Yangon Area



Ready to drink milk

- In 1995, WALCO dairy plant initiated the production of pasteurized milk. The hygienically processed milk was accepted by consumers.
- The pasteurized milk market flared along when super markets started appearing in Yangon in 1997.
- Small-Scale Dairy Technology Transfer and Training Project 2004-2006 (Myanmar/FAO TCP/MYA/3001(T)) benefited to dairy processors and farmers.
- Following the systematic procedures exercised by the entrepreneur, eleven new brands of pasteurized milk penetrated the market in a decade (1997-2007).
- Growing demand for milk & dairy products, but at the same time-growing demand for safer products



Hygienic Production

- Most of the SSD farmers practice manual milking method, not more than 10 dairy farms use milking machine.
- SSDTTT project introduced Lactoscan with Myanmar dairy business in 2006.
- Quality raw milk can be collected by using Lactoscan.
- No problem of Melamine in fresh milk, as milk payment system is not base on protein% of milk
- Need to upgrade milk and milk products packaging



Constraints and problems

- Low in dairy breed genetic.
- Poor in proper dairy husbandry & feed management
- Poor storage and transport facilities.
- Insufficient electric power makes production cost higher.
- Financing to extend business.
- 30% taxation on sale.
- Unfair competition with cheap imported milk powders.

Recommendations

- More inspection on dairy plants from concerning institutions
- Sufficient electricity supply is needed
- UHT milk plant is necessary for increasing raw milk
- The import of poor quality milk powder at low prices should be banned by imposing new laws and restrictions to protect the livelihood of small holder dairy producers.
- The sale tax rate be lowered on the domestic value added milk products than the imported products
- National Dairy Development Plan should be initiated asap
- Long term loans with low interest rate.

THANK YOU

**RECENT DEVELOPMENT OF DAIRY INDUSTRY IN
INDONESIA**

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GENERAL SITUATION AND PROBLEM

- HIGH POPULATION OF PEOPLE : 240 MILLION PEOPLE
- MILK SELF SUFFICIENCY : 25% (679.2 METRIX TONS)
- LOW LEVEL OF MILK CONSUMPTION : 11 LITER/CAP/YEAR
- MILK CONSUMPTION TENDS TO INCREASE SIGNIFICANTLY
- BECOME HIGHLY DEPENDING ON MILK IMPORTATION
- WILL IMPROVEMENT OF NATIONAL DAIRY INDUSTRY
COULD OVERCOME THE DEMAND OF MILK ?
- IN YEAR OF 2014 INDONESIA PLANS IN ACHIEVING THE MILK
DEMAND OF 50%
- COULD WORLD MARKET FULFILL THE DEMAND OF MILK ?

NATIONAL DAIRY PROGRAM

INCREASING NATIONAL MILK PRODUCTION

- SUPPORT THE FARMER OR PRIVATE SECTOR WHO WANTS TO
BUY DAIRY CATTLE (AVAILABLE FUND FOR BUYING 200.000
HEADS OF DAIRY CATTLE WITHIN NEXT 5 YEAR SINCE 2010 BY
ISSUING THE MINISTRY OF FINANCE DECREE ON LOAN FOR
BREEDING DAIRY CATTLE (5% LOAN SUBSIDY TO ANY
BUSINESSMAN AS WELL AS ELIGIBLE MILK COOPERATIVE)

IMPROVEMENT OF FARMER PROSPERITY

- DEVELOP SMALL SCALE MILK PROCEESING PLAN TO BUILD
UP THE CAPABILITY OF MILK COOPERATIVE HANDLING ON
MILK PROCESSING TO GET ADDED VALUE OF MILK

The regional Dairy Expert Roundtable Meeting on “Competitive Dairy Value Chains in Southeast Asia” provided a forum for participants from six Southeast Asian countries to discuss how dairy value chains in this region can become more competitive and sustainable. This document, Part II, contains the PowerPoint presentations from the workshop and is an annex to the main report of the meeting.

More information: www.cdi.wur.nl

