

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 I: Project Report



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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:



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Project Report

January 2011

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Wageningen UR Centre for Development Innovation

Competitive Dairy Value Chains in Southeast Asia – Part I

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Editors:

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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.

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.

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Preface

Over the last five years, Wageningen UR has carried out studies and pilot projects for developing dairy value chains in the Philippines, Malaysia, Indonesia, and Thailand. These projects were carried out on behalf of the Ministry of Economic Affairs, Agriculture and Innovation (EL&I, former LNV) in the context of Dutch involvement in private investment and development activities directed at local value chain developments. One important observation was that various stakeholders in the projects lacked knowledge on dairy development in neighbouring countries and were very interested in sharing experiences and ideas on developing the local dairy value chains within the region. Earlier joint learning initiatives in the context of the Asia Pacific Dairy Strategy Project by FAO AHPCA proved valuable and called for a wider exchange with more private sector involvement. The Dairy Expert Roundtable Meeting in Thailand was organized from this perspective. This report is a reflection of the presentations and lively discussions held during the meeting. We hope that this will contribute to a further exchange among stakeholders in the region and further development of the dairy sector in the various South East Asian countries.



Dr. A.J. Woodhill
Director Wageningen UR Centre for Development Innovation



Acknowledgements

The Round table meeting was organized by Wageningen UR Centre for Development Innovation and Wageningen UR Livestock Research, in cooperation with AgsPart 2020 Foundation from the Philippines, the Agricultural Councillor of the Dutch Ministry of Economic Affairs, Agriculture & Innovation (EL&I) in Bangkok, the Thai Department of Livestock Development, Kasetsart and Suranaree Universities, FrieslandForemost and the Thai Bovine Practitioner Club.

We sincerely thank all partners and participants for their invaluable contributions to the success of the meeting. We acknowledge the financial support from the Dutch Ministry of EL&I provided through the policy supporting dairy research projects BO-10-010-104 and BO-10-010-117 (Philippines and Thailand dairy projects). The quality contributions provided by all participants were essential to the success of this event.

Special thanks go to those who opened the meeting, gave constructive presentations, chaired the sessions, documented the discussions, organized the logistics, or in any other way made much valued contributions. We also would like to thank the Muak Lek Cooperative for hosting the excursion, and Arunwit Resort for hosting the meeting. Special praise for his indispensable assistance goes to Mr. Sarawut Chantachitpreecha (Assistant Agricultural Counsellor of the Royal Netherlands Embassy in Bangkok). Finally, we would like to thank the Moderator of the Community of Practice for Pro-poor Livestock Development (www.cop-ppld.net), an on-line knowledge sharing network, for giving us the opportunity to share the findings with a wider audience through their portal.



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Dairying in Asia: opportunities and challenges

Vinod Ahuja, Livestock Policy Officer, FAO

The role of the Indonesian government in developing the dairy value chain

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The role of government in developing the dairy value chain in Thailand

Sinchai Ruengpaibul, Department of Livestock Development

The role of government in developing the dairy value chain in Vietnam

Do Kim Tuyen, Department of Livestock Production, MARD

Setting the scene: Experiences & lessons learnt with improvement production, input supply and services

Bram Wouters, Wageningen UR Livestock Research

Dairy farming in Vietnam

Luu Van Tan, Dairy development program, FrieslandCampina

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

Victoria O. Espaldon, University of the Philippines Los Baños

Supply chain of fresh milk on dairy cooperatives in Indonesia

Yusup Munawar, The Union of Indonesian Dairy Cooperatives

Setting the scene: Experiences & lessons learned on collection, processing and marketing

Jan van der Lee, Wageningen UR

Milk quality control- the Malaysian government scheme

Shariffah Noorhaimi, Division of Livestock Commodity

Organization of milk collection in Indonesia

Idat G. Permana, Bogor Agricultural University

Niche marketing in the Philippines

Danilo G. Fausto, Dairy Confederation of the Philippines; Talavera Dairy Cooperative, Inc.; DVF Dairy Farm, Inc.

Value chain coordination for an efficient sector

Bram Wouters, Wageningen UR Livestock Research

Foremost Thailand and Dairy Scene

Ronayoot Chongcharoenrat, FrieslandCampina

A healthy start with better milk

Marc Spackler, Nutrifeed

Asian dairy: Gain or Pain?

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Nutreco Ruminant Innovations and Concepts

Lammert Veenhuizen, Nutreco

Lessons learned on sustainable smallholder development in Myanmar

Khin Hlaing, Myanmar Dairy Association

Recent development of dairy industry in Indonesia

Adiarto, Universitas Gadjah Mada

Executive summary

The Dairy Expert Roundtable Meeting on “Competitive Dairy Value Chains in Southeast Asia” was held in Muak Lek, Thailand, on December 8 and 9, 2010. In this regional meeting, participants from six countries in Southeast Asia discussed how the relatively small dairy value chains in their countries could become more competitive and sustainable. In addition, representatives from the Dutch agribusiness presented their work in the region.

Southeast Asian countries have a lot in common when it comes to the development of the dairy sector and the dairy value chain. Dairy has no long tradition and local milk production is limited. However, the need for dairy products is increasing steadily. Most of the milk is produced on small farms. Inefficiencies in the chain, low productivity and problems with milk quality, as well as institutional constraints, make these products less competitive than imported products.

During the meeting, international developments, national policies and experiences, lessons learned and challenges in different steps in the value chain were presented and discussed. It became clear that countries face similar challenges: how to produce milk at lower costs and how to improve milk quality. However, solutions for these challenges strongly depend on the local context. In countries where government policies favour growth, there is a large increase in local dairy production. In countries with less involvement of the government and without a strong dairy business there is almost no growth. In most countries, value chain coordination is absent or limited to pricing. Coordination and cooperation in the value chain can be improved, for instance, through establishing a dairy board. On a more regional scale the exchange of services as well as sharing of expertise and knowledge promises a way forward.

1 Introduction

1.1 Introduction

In many Southeast Asian countries the market for dairy products is growing. Rising income, urbanisation, and changing diet preferences result in an increasing consumption of milk products. This growing demand is still largely met by importing dairy products. The challenge is to find out how local dairy production can better cater to market opportunities.

In most SE Asian countries dairy production and consumption has no long tradition. In general, the dairy sector is small and not well developed. During the seventies and eighties of the last century, small holder dairy development programmes were initiated in countries like Thailand, the Philippines, Indonesia, and Malaysia, with strong support of governments and donors. This was followed by a period with less interest, due to reduced government support, less market protection, and low world market prices for dairy ingredients. The 2007 price hike for milk powder on the world market sparked new attention of governments and the private sector for the development of local dairy value chains.

The development of local dairy value chains has several advantages. A strong dairy sector contributes to import substitution, economic growth, and to poverty alleviation, as it generates income and employment. However, there are several challenges that have to be faced: assuring the competitiveness of local dairy value chains, especially in view of market liberalization; improving the efficiency and quality of not only milk production, but also of input and service provision; and achieving coordination and proper distribution of value in the chain.

Objectives

The purpose of this Dairy Expert Roundtable Meeting was to bring together relevant stakeholders from Southeast Asia to exchange policies and practices, learn from recent experiences, and to identify promising opportunities and challenges. What policies stimulate dairy value chain development? What successful (Southeast Asian) examples are there to overcome barriers? What roles are there to play for the public and the private sector? Furthermore, it aimed to identify opportunities for development and regional cooperation between different players, and explore the areas where Dutch government, agribusiness, and knowledge institutes could contribute.

Expected outputs

- Main experiences and lessons learned are shared, from industrial to smallholder dairy, in dairy producing ASEAN countries;
- Some concrete actions identified at country level and regional level on major intervention areas, potential interventions around value chain, and public and private support to dairy development activities;
- Informal contacts are established and a report of the meeting is shared online.

Sequence of the meeting

The meeting was opened by Mrs Daphne Dernison from the Dutch Ministry of Economic Affairs, Agriculture & Innovation, and Mrs. Chaveewan Viriyapak, Deputy Director General of the Thai Department of Livestock Development.

The meeting covered different aspects regarding competitive dairy value chains:

- The general challenges and the role of the government
- Experiences and lessons learnt in the process from production to marketing:
 - experiences and lessons learnt with the improvement of production, input supply, and services
 - experiences and lessons learnt with collection, processing, and marketing
- Value chain coordination, regional approaches and experiences, and country group discussions
- Business presentations and an excursion to a Milk Collection Centre and the Dairy Promotion Organisation farm in Saraburi.

The next chapters include the abstracts of the presentations that were given around the themes presented above, augmented with summaries of the questions and discussions. In chapter 6 the main findings and recommendations of the workshop are summarized. The program, the opening speech of the DDG of the DLD, two additional papers, the participant list and an overview of the PowerPoint presentations are included in the annexes. The full PowerPoint presentations can be found in Part II of this report.

1.2 Opening Speech (DLD)

Opening speech by Mrs. Chaveewan Viriyapak, Deputy Director General, Department of Livestock Development, Thailand

Dear Mrs. Daphne Derrison, Mr. Bram Wouters, Mr. Vinod Ahuja, and distinguished participants,

It was a great honour to be invited here today and I am very glad to welcome you to Muak Lek, Thailand to join the Dairy Expert Round Table Meeting 2010 on Competitive Dairy Value Chains in Southeast Asia. I think this is an extremely important initiative, at the right time, to contribute to dairy development. As dairying contributes to the nutrition of children, poverty alleviation, economic growth, import substitution and promotion of food security, and helps create employment.

Thailand has gradually developed dairy production since 50 years ago. The Department of Livestock Development, the Cooperatives Promotion Department and the Dairy Promotion Organization of Thailand had launched many projects to promote dairy farming, especially for smallholders. The recent rapid growth in milk consumption has been driven by a highly successful school milk programme that has changed the milk consumption habits of the nation. The programme begun in 1983 and was originally based on imported milk powder, but later switched to local milk to support domestic smallholder milk producers and processors. Today over six million pre-and primary school children get milk for 260 days a year and milk consumption has climbed from under 5 kg in 1983 to over 40 kg per year.

Over 80 percent of milk in Southeast Asia is produced by smallholders with 2 to 5 cows. There are millions of mainly small-scale traders making a living from the dairy value chain. This is the reason that the Thai government is quite conscious of the role of dairying as an important means of sustaining and supporting the livelihoods of rural poor. Smallholder production in Southeast Asia has cost advantages over large-scale industrial systems due to the availability of low-cost family labour and relatively modest economies of scale in milk production. But on the contrary, high feed deficits, scarcity of land, high capital costs, and high costs of specialized inputs such as vaccines and drugs, make their position less favourable.

It is necessary to support the dairy industry by increasing production efficiency at the farm , using best practice production methods to enhanced productivity and cooperative levels and by encouraging R&D for new milk products -supporting processing technology as well as research in the marketing of dairy products.

Finally, I would express my sincere thanks to the Netherlands Embassy and partners, Wageningen University, Suranaree University of Technology, Kasetsart University, Thai Bovine Practitioner Club, Friesland Campina Thailand, AgsPart 2020 and the Thai Department of Livestock Development for their excellent cooperation in the organization of this conference. It is our hope that competitive dairy value chains in Southeast Asia will promote regional cooperation and create awareness and sensitivity about the role of smallholders toward meeting the poverty alleviation and food security goals in the coming years. I wish you a very successful meeting. Thank you.

2 General challenges and the role of the government

Global trends and their implications for dairy development in South East Asia

Bram Wouters

Wageningen UR Livestock Research

Abstract:

Worldwide drivers

Worldwide drivers for dairy development are the increased demand for dairy products as a result of population growth, while income growth and urbanization in emerging market economies lead to a higher consumption of dairy products because of changing food patterns. A second driver for dairy development is the national interest for food security, import substitution or export, and diversification of the agricultural base. Improvement of food security, human nutrition and poverty alleviation in the rural areas by creating regular income and increasing employment opportunities is a third driver for dairy development.

Trends in dairy development

Policy oriented trends is the tendency for less market protection, particularly in the EU and the USA. In the EU price support and export subsidies have diminished and will be abolished. This will lead to more price fluctuations and the first signs were notable in 2007, when prices of milk powder and other dairy products skyrocketed on the world market followed by extreme low prices in 2009.

As a result of high food prices in 2007/2009 there is a renewed interest in many countries to increase their rate of self-sufficiency. A typical example to increase the self-sufficiency for dairy products is China that increased its dairy production enormously during the last decade. Most SE Asian countries are not self-sufficient and the milk deficits are likely to grow.

Worldwide there is a general interest to improve the sustainability of food production, including dairy production. Governments and companies put much effort in implementing measures to make dairy production more sustainable from an economic (Profit), environmental (Planet) and social (People) point of view.

Market oriented trends are the increase in scale of production and processing. For example dairy farms in the Netherlands increased from an average of 16 cows per farm in 1970 to 65 cows per farm in 2007. Area of grassland and forage crops per farm tripled. This was made possible as the number of dairy farmers decreased from 116,000 in 1970 to 21,000 in 2007.

Other market oriented trends are the emphasis on value chain development to improve efficiencies but also to create more value out of milk and to meet consumer demands. Consumers have become more quality and health conscious leading to much more emphasis on food safety and quality control in the chain. In western countries total quality management by which all processes in the chain are monitored is applied as an integrated aspect of chain management. Much of quality control is delegated to the actors in the chain while the government is supervising and auditing quality systems.

Approach for dairy development

Lessons learnt from other countries indicate that dairy development needs an integrated, holistic approach, for example a value chain approach in which various aspects are addressed at the same and right time.

However, new innovations and options for development need to be adapted to the local context, while a stepwise approach yields the best results in the long term.

Starting points for a value chain approach are the market or the development of the market, sustainability, the local context and the development stage, while a holistic approach and cooperation and coordination among actors in the chain is needed to develop an efficiently operating chain.

Dairy sector in SE Asia

Some general characteristics of the dairy sectors in SE Asian countries are that they are small compared to countries like India and China. There is no long tradition in milk production and dairy consumption. The climate is harsh for milk production from cattle. Milk from cattle is mainly produced by small holders, while dairy production is in most countries for a large part (50-98%) based on imports (dairy ingredients and ready made products). There exist in many countries formal and informal marketing channels although less than e.g. in India. The level of government involvement and support and market protection varies among countries. This is also reflected in milk prices paid to farmers. Based on information from IFCN Report 2010, the farm milk price varied from 37 US \$/100 kg in Indonesia to 58 US \$/ 100 kg in Malaysia at the end of 2009. The share farmers get from the consumer price varies also considerably from 30% in Malaysia to 44% in Thailand.

Implications for SE Asia

What do global trends and dairy value approach mean for dairy development in SE Asia?

The trend for lower market protection and Free Trade Agreements (e.g. Thailand and Malaysia with New Zealand) put new challenges to make dairy production more competitive.

Issues that need to be addressed are import tariffs, pricing systems, government support, responsibilities of government and private sector in dairy development, systems of raw milk quality control and supervision.

Less market protection requires also a more competitive dairy production: lower cost price at farm level (feeding costs, scale of production), more efficiently operating collection schemes, input supply and services while at the same time more value in the chain and in a number of cases also a better distribution of the created value among the actors.

The trend of less involvement of government in the chain by transition from actor to facilitator, regulator and supervisor creates also difficulties. The privatisation of services requires also a private sector capable and willing to take over these tasks. Agreements should be made between government and private sector about responsibilities and tasks. If not, farmers will be deprived of proper advice and new innovations and development will stagnate.

Improving economic, environmental and social sustainability implies also a number of issues to be addressed. Economic sustainability can be achieved by becoming more competitive regarding cost price and efficiency in the chain and improvement of farm management (feeding, breeding, animal health). A better utilization of resources and a higher productivity will lead also to a better environmental sustainability if more attention is paid to nutrient flows and recycling of nutrients (waste management). Improving social sustainability means more attention for the human and animal. Inclusion of small holders into modern dairy value chains can create more wealth in rural communities. Improving farmers capacities in terms of skills and management will not only provide the capabilities to improve farm management. Better animal management especially regarding heat stress, disease prevention and hygiene will improve the welfare of the dairy herd.

Development of the value chain implies also a number of issues like the distribution of value among the actors in the chain, improvement of efficiency by reduction of transaction costs, organisational and institutional issues related to input supply and services and the quality control at different stages in the chain.

Finally

Dairy development requires an integrated approach and development with a value chain perspective could provide a holistic approach. The SE Asian countries have different starting positions from rather well developed value chains to non-existing chains. Challenges like less market protection, future role of government and private sector, improvement of efficiencies at farm and chain level, improvement of both quality and quality control, and inclusion of small holders in modern dairy value chains are common challenges. The round table meeting can provide a good platform to discuss the challenges, the experiences, the lessons learnt in the various countries and to identify development options, new innovations and ways of cooperation.

The PowerPoint presentation 'Global Trends and their implications for dairy development in Southeast Asia' can be found in part II of this report.

Dairying in Asia: opportunities and challenges

Vinod Ahuja

Livestock Policy Officer, Food and Agriculture Organization of the UN
Regional Office for Asia and the Pacific

Abstract:

Asia region has emerged as a major player in global dairy production and consumption. Aggregate consumption gains in dairy products in Asia over the past decade have exceeded twice the annual global average. Also, recent OECD/FAO projections foresee that the strongest gains in dairy production and consumption over the coming decade will take place in Asia although most of the production gain is expected to be the result of rising cow numbers, rather than yield growth.

Within these strong production and consumption trends there is wide variety in production and consumption patterns, socio-economic and cultural contexts. While South Asia has a much longer tradition of milk production and dairying in South Asia has been and continues to be an important livelihood support activity, recent growth in milk production in East and South East Asia, led by private sector investment in processing and distribution, has significantly altered the dairy landscape of Asia. There are also different drivers at work across different sub-regions of Asia.

Over 80 percent of milk in Asia is produced by smallholders. There are also millions of mainly small-scale traders making a living from the dairy value chain. FAO estimates that for every 100 litres of milk produced locally, up to five off-farm jobs are created in related industries like collecting, processing and distribution. At the same time, two thirds of the world's 800 million undernourished people live in the Asia-Pacific Region. One daily glass of milk to the children in Asia can contribute tremendously to improving the nutritional levels in the region.

With increasing complexity of dairy production and distribution, constantly changing consumption demands, deepening regional and global integration, diverse expectations from the sector and growing public health and environmental concerns, the region faces many challenges in dairy development. Some of these include:

- Augmenting milk availability in a number of countries from the current low levels
- Improving productivity along the cow-to-consumer dairy food chain and at farm level
- Enhancing returns from milk production by improving access to input services and enhancing raw milk quality.
- Improving the organisation of smallholder milk producers to improve their bargaining power and reduce risks
- Encouraging private sector investment in dairying along the post-harvest value chain
- Maximising smallholder earnings from dairying in a manner that minimizes harm to soil health and contribution to water and atmospheric pollution
- Understanding, more closely, the contribution of Asian dairy animals in global greenhouse gas emissions and climate change and identification and implementation of incentive based mitigation measures
- Engaging, strategically and pro-actively, with other global and regional dairy players and promoting interests of Asian dairy producers and consumers

Fortunately, Asia also has a rich diversity of experiences and models to address these challenges. Over the last few years FAO in partnership with CFC (Common Fund for Commodities) and APHCA (Animal Production and Health Commission for Asia and the Pacific) has taken the lead in distilling lessons from Asian dairying experiences and by facilitating dialogue and experience sharing among key players. Among other things, the process included undertaking rapid lessons learned studies, complete value chain studies in selected countries, and a multi-stakeholder workshop to discuss and evolve an action agenda for Asia's dairy sector. This process culminated in the formulation of a dairy development strategy for Asia. Some of the general lessons that emerged from this process are:

- It is important to carefully target smallholder dairy development interventions
- Pro-poor, social programs need to be carefully targeted and are usually only sustainable if linked to remunerative markets
- Governments have to be careful about interventions in the sector, including pricing policies and dairy cow loan schemes
- In some cases, Governments need to be concerned about monopoly power of processors (floor pricing for milk might work in this situation)
- Government investment in large operations don't usually work
- School milk programs, when implemented with a focus on smallholders, can support dairy development (as well as generating long term demand for dairy products)
- Industry institutions and smallholder groups (associations, cooperative etc.) can have a pivotal role in supporting dairy development
- 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
- Smallholders need an accessible and affordable complete package of support services (animal health, AI/breeding etc.) to produce milk competitively
- Technical know-how and skills delivered through practical and accessible vocational and outreach training are equally important
- 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

The dairy development strategy for Asia is available on:

www.fao.org/ag/againfo/themes/documents/Dairy_dev_strat.pdf

Questions and answers:

- In Southeast Asia they have experimented with hybrid breeds of dairy cows. In South Asia they are breeding their own dairy cows. There is a lot of cross breeding.
- The FAO has no particular position in the discussion on branding of fresh milk in international trade. FAO is more concerned about smallholders and food safety.
- The FAO has been very active and supporting in school milk programs, and is especially interested in bringing in good practices and providing technical assistance.
- The FAO has no programs specifically targeted towards reducing the impact of climate change from dairying. However the accounting of dairying, production and transportation is extremely critical. The FAO program on climate change has three pillars: public health, waste, and livelihood security. Countries should think about responsible development, minimizing conflicts, and balancing between minimizing trade-offs and maximizing benefits. Regarding livestock production; competing objectives and actors need to be in balance.
- To have an enabling environment for dairy is a challenge for the different countries with all different policies. The industry also has to go through processes that stimulate this environment. To intervene, dialogue at the highest levels of policy making is essential. The experiences are there, now the challenge is to come up with consistent, common elements of a more enabling environment.

The PowerPoint presentation 'Dairying in Asia; opportunities and challenges' can be found in Part II of this report.

The role of the Indonesian government in developing the dairy value chain

Bess Tiesnamurti and Yeni Widiawati

Indonesia Centre for Animal Research and Development

Abstract

The total dairy cattle population in Indonesia is about 487 thousand head and almost 95% is located in Java, with the largest distribution found in East Java, followed by Central Java, West Java and Yogyakarta. The whole dairy population contribute to a total milk production of almost 679.269 tons (2009), with an average increase of almost 27% over the years 2005 to 2009. The dairy population increase of 34% (from 364.000 to 487.000 heads) occurred during 2004 to 2009. Of the increase in the dairy population, almost 99% was found at the island of Java and the rest is found scattered over Sumatera, Sulawesi, Maluku, Bali-East Nusatenggara and Papua.

The whole national milk production relies on traditional dairy farms (87%), whereas 7% and 5% is produced by resp. small and medium scale enterprises, and only 1% comes from large scale modern dairy farms. In doing their business, dairy farmers have a strong relationship with the cooperative. Large scale cooperatives send all of their milk production to the milk processing industry (MPI), medium scale milk cooperatives sell almost 90% of their milk production to the MPI, whereas small cooperation only sell 57% of their milk production to the MPI. Up to now, the government facilitates and plays significant roles in the development of the dairy cattle industry. In order to make dairy farmers more productive, more contribution of the government is imagined in the near future. The expected roles of government are as follows: a) to restructure the regulation on dairy industry, b) to stimulate the development of dairy cattle farming and or dairy cattle industry outside Java island, c) to stimulate milk processing units at different scales located in the centre of dairy farmers.

Questions and answers:

The government has a credit policy for small farmers: loans are available for a 3 year term at a rate equivalent to half the commercial rate. However, there are a lot of requirements, so for most farmers these loans are still inaccessible. Indonesia only imports skimmed milk, no fresh milk.

The government has a policy in which they want to expand its dairy production outside Java island, however, dairy companies, so far, do not want to invest outside Java.

The PowerPoint presentation can be found in Part II of this report.

The role of government in developing the dairy value chain in Thailand

Sinchai Ruengpaibul

Department of Livestock Development

Abstract

The Thai government established a Dairy Board in 2008. This board consists of representatives of the government, the factory, advisors, and farmers. The main focus is on raw milk management, the school milk program, and quota and tariffs on imported skimmed milk products. Raw milk quality is controlled by the Department of Livestock Development, and takes place at the dairy farms, the milk collection centres, and the milk processing plants. At the Milk Collection Centres, milk is graded from A to D and penalties are given if water is added or antibiotic residues are discovered. At the milk processing plant, penalties are also given (e.g. for milk below freezing point) and milk prices are adjusted to milk quality.

From 2008 to 2009 the total dairy cattle population increased from 489,755 to 493,551, and the annual milk production increased from 775,866 to 889,043. This increase seems ongoing, as in 2010, 533,552 dairy cows were counted on 19,404 dairy farms. Most of the dairy farms (68%) are located in the central region of Thailand and 21% is located in the North-eastern region. Over 90% of the dairy cows are crossbreds that have between 75 and 95% Holstein Friesian blood.

The value of the milk market in Thailand is 850 million USD, with UHT milk and culture yoghurt as the main products. In total, Thailand imports milk products with a value of 602 million USD, and most of these milk products come from New Zealand and Australia. Thailand exports milk products with a total value of 182 million USD, mainly to Malaysia, Singapore, Cambodia, Indonesia, and Laos.

Questions and answers:

- Thailand has an import quota for skimmed milk of 55,000 tons per year, and a tariff of 5%.
- Thailand only imports milk powder, with a tariff of 20%, but importations are restricted to a maximum of 70% of the demand for milk products.
- What is the direction of the dairy industry: UHT or pasteurized milk? Pasteurized milk is sold in the local area. UHT is expensive, but might be cheaper in the long run. The school milk program uses pasteurized milk, as it is the government's policy that only fresh milk is used for school feeding. During school holidays, they process UHT milk. UHT milk is made from fresh milk.
- The Thai government's policy, regarding breeding, is that Holstein Friesian crossbreds are continuously upgraded until they are almost pure-bred.

The PowerPoint presentation can be found in Part II of this report.

The role of government in developing the dairy value chain in Vietnam

Dr. Do Kim Tuyen

Department of Livestock Production, MARD

Abstract

Vietnam was known as a tropical agriculture country, mainly producing paddy rice, and in 1995 Vietnam became the second biggest rice exporting country in the world.

In 2001, the Vietnam Government approved the Decision No. 167/2001/QĐ-TTg for a dairy development program from 2001 to 2010. The main objective was to meet the local demand of milk consumption, increase the economic income, and improve the living standard for farmers in rural areas.

The national dairy breeding project of MARD supports the dairy development program in the main fields: (i) a Training of Trainers program for provincial technical staff and dairy farmers, on basic dairy farming operation and dairy farm management; (ii) in the first three years, all AI breeding service was given to dairy farmers free of charge, and subsidized for new born male calves; furthermore, it provided quality control of the frozen semen production in the country, and imported frozen semen and embryos for the dairy breeding program; (iii) support for the epidemic diseases vaccination, disease control and subsidizing replacement when dairy cattle were lost due to disease outbreaks or natural disasters, like floods, storm, melamine crisis, extreme cold weather; (iv) supporting the establishment of new cold milk collecting system in new dairy areas: cooling tanks, weighing equipments, quality test kits, and regulating the farm gate fresh milk price for dairy farmers in all project provinces; (v) supporting (starting) dairy farmers with a long term loan credit with low interest, and assistance with building cow barns and fodder production; (vi) dairy processing companies had the responsibility for the development of dairy farming; help farmers in dairy extension, milk collection, and buying the fresh milk with fair, but competitive prices.

After 10 years of dairy development, the dairy population of Vietnam has increased from 40,000 heads to 130,000 heads of cattle, and the total milk production per year from 64,000 tons to 300,000 tons. The average consumption of local fresh milk per capita increased from 0.8 kg to 3.4 kg/year. The main constraints in dairy development were due to a lack of experience in dairy management, nutrition deficiency, reproductive disorder, mastitis, low fresh milk price, melamine crisis, high breeding costs, disease outbreak, and natural disaster. However, the dairy business has really improved the income for the dairy farmers in Vietnam at present. The main role for the government in Vietnam, during the last decade, was to contribute to these successes in dairy development.

Questions and answers:

- How did the international dairy cooperation programs help to achieve dairy development? Japan provided assistance in training (AI, feeding and milking); Belgium provided training in financial analysis and supported training in forage production, selection of grasses, irrigation, and computation of economic calculations.
- Vietnam has no import restrictions, and a low tariff. Most imported milk comes from Australia and New Zealand.
- There are around 20,000 farmers, and most of them have 2 to 5 crossbred cows (Holstein Friesian + local breed). The ideal number, however, would be 10 cows. The mega-farms (1000-2000 heads) have pure Holstein Friesian herds.
- Vietnam has a loan for small farmers for 3 years, with a low interest rate of 15%.

The PowerPoint presentation can be found in Part II of this report.

3 Experiences and lessons learnt from production until marketing

Regarding the experiences and lessons learnt in the value chain, the program was split up in two different sessions. One session focusing on the first part of the value chain: 'production, input supply and services', and the other session focusing on the last part of the value chain: 'collection, processing, and marketing'. Each session was introduced, followed by 3 presentations with case studies.

3.1 Experiences and lessons learnt with the improvement of production, input supply, and services

Setting the scene: Experiences & lessons learnt with improvement of production, input supply and services

Bram Wouters

Wageningen UR Livestock Research

Abstract

In the presentation characteristics and issues related to input supply, services and milk production are presented as a basis for further discussion.

The main issues related to input supply are:

- Land: availability and access in relation to forage production
- Feeds: access, availability and quality
- Cattle: availability, access and quality
- Labour: availability and quality

The main issues related to services are:

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

Major issues related to milk production at farm level are:

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

This presentation is an introduction to country presentations and discussion on experiences and lessons learnt related to improvement of milk production, input supply and services. In another presentation the other components of the chain: milk collection, processing and marketing are dealt with.

The PowerPoint presentation can be found in Part II of this report.

Dairy farming in Vietnam, Dairy development program

Luu Van Tan

FrieslandCampina Vietnam

Abstract

Dairy farming in Vietnam

Only since 1980, dairy farming started in Vietnam. Most of the dairy cows in Vietnam are crossbreds with >75% of Holstein Friesian. In 2010, the total number of dairy cattle is 115,000 heads (incl. young stocks). Most of the dairy cows are raised in small-holder farms where it is integrated in other agri-businesses. The average small-holder has 6-8 cows and a daily milk production of 50 kg. The total annual milk production in Vietnam is estimated as 274,000 tons in 2010, which is about 22% of total milk consumption in the country (14 kg/year/capita). The annual growth of milk production was about 10% in the past five years. The Vietnamese government is planning to increase self-supply of raw milk from 22% in 2010 to 38% in 2020. The main constraints of dairy farming in Vietnam are a lack of land for high quality forage production; higher production costs at small scale farms (especially in the urban areas where feed/labour costs are higher).

Dairy Development Program (DDP)

FrieslandCampina Vietnam has started its Dairy Development Program (DDP) since 1995. The company has invested so far more than USD 13 millions and has 70 permanent employees for the DDP. The DDP's activities are the following:

1. Setting up a comprehensive milk collection network. The most important mission is to improve the infrastructure of the milk collection network. The company has organised forty collection points, scattered over the provinces Binh Duong, Tay Ninh, Long An and Ho Chi Minh City. In addition there are 2 Milk Chilling Centres and a network of cooling facilities at 4 collection points and 3 farms established. Now, there are about 2,500 farmers participating in the program, supplying more than 160 tons of fresh milk per day (23% of national milk production) and this quantity is increasing with an annual growth of 10%.
2. Providing farmers with good quality farm services and trainings. High skilled, and well trained, extension staff provides farmers with free of charge services, such as artificial insemination and veterinary service, as well as providing medicines at cost price.
3. A training program for farmers raises awareness and creates mutual interest in a better quality and safety of fresh milk. Furthermore, it strengthens the farmers' knowledge and skills through 'learning by doing'. Apart from dairy husbandry aspects, the training focuses on farm economics. Farmers are invited to the company's training centre and the small demonstration farm from FrieslandCampina.
4. Setting up a quality control and assurance systems from farm to factory. The infrastructure and logistics of the milk collection system are supported and enhanced by ISO management and HACCP systems. The company has recently initiated a project called "Quality risk management system" for raw milk collection from farms to factory (based on HACCP from farm level).
5. A transparent and incentive milk payment system encourages dairy farmers to produce high quality fresh milk. Farmers can obtain a premium on the price if high quality milk is delivered. Furthermore, the company has recently applied a bonus scheme, on top of milk pricing, to individual farms for better hygiene quality milk (low bacterial counts) and higher milk volume delivered. From January 2011 onwards, farmers are encouraged to apply Good Dairy Farming Practices (GDFF) through a linear bonus payment and scoring system, based on GDFF and Somatic Cell Counts at farm level.
6. Building up good relationships with farmers, government and community

The achievements of the Program

The DDP provides an efficient model of transfer of technology for small farmers and larger dairy farms. They have learned new techniques to raise cows and to improve the quality of the milk. Farmers feel safer as risks, with regard to raising cows, have been reduced. They can rely on assistance from the company's technicians whenever they encounter problems. Furthermore, farmers escape from intermediate traders and get favourable prices when selling milk directly to the company. In addition, the company is creating a milk market for the farmers. After 15 years of operation, the numbers of farmers joining the program, milk production, and milk quality have steadily increased beyond expectation. The DDP contributed to the socio-economic growth in rural (farming) areas. The extension program resulted into higher milk yield per cow, higher milk production per farm, a better milk quality and stable profits for local dairy farmers.

FrieslandCampina Vietnam also benefits from the stable fresh milk source with premium quality for its dairy plants at competitive cost price. The contribution of DDP to the sustainable development of dairy farming in the country has been recognized and highly appreciated by farmers, the community and the government.

The PowerPoint presentation can be found in Part II of this report

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

Victoria O. Espaldon

University of the Philippines Los Baños

Abstract

In the Philippines, the contributions and impact of smallholder dairy cattle farming to sustainable rural livelihood strategies were studied. The study was conducted based on the 5 livelihood assets; financial, social, human, physical, and natural capital.

In terms of financial capital, on average a household made an income of 1400 USD a year from dairy activities, which is 33% of the total annual household cash income. Overall, it contributed for 21% to the financial capital (household income and economic return). A high percentage of farmers are active members in cooperatives and associations. Nevertheless, there is a low contribution of women in major decision making at household level. Dairy cattle farming provide a social safety net when the economic situation is not good, and dairy activities contributed 72% to the social capital. Overall it contributed for 55% to the improvement of human capital (better health, nutrition, knowledge, education); 33% to physical capital (build up and use of existing physical capital); and 80% to natural capital (utilization and recycling of natural resources).

There are some issues and challenges remaining for the further development of smallholder dairy farming in the Philippines. Regarding financial, physical and natural capital the following challenges can be named: Improving the capacity of farmers in terms of farm economics and financial management; strengthening cooperatives and associations to access funding for support services (e.g. at the Land Bank of the Philippines, NGOs); developing and expanding local markets and exploring the fresh milk market and alternative markets; improving herd build up among small dairy farmers; dealing with the impacts of climate change and other environmental factors; mapping of suitability for dairy farming to guide planning; feeds development; balancing between small and big dairy farmers; analyzing profitability based on reliable data; and organizing a dairy forum on every island.

The PowerPoint presentation can be found in Part II of this report.

Supply chain of fresh milk on dairy cooperatives in Indonesia

Yusup Munawar

The Union of Indonesian Dairy Cooperatives

Abstract

In Indonesia, dairy cooperatives were founded in the 1980's. In 1979 the Association of Indonesian Milk Cooperatives (GKSI) was established, and in ten years time the number of cooperatives increased from 27 to 198. As a result, there was a significant increase in the number of farmers and workers in the dairy agribusiness. At the same time, the government developed a program to establish Cooperative Village Units (KUD) in rural areas, and ordered the development of a dairy business unit called 'KUD of Milk'. These primary cooperatives are members of GKSI.

Most of the milk is produced on a small scale: 70% of the farmers have 1 to 3 cows and 23% has 4 to 6 cows. Prices for fresh milk have almost doubled since 2005.

GKSI is in the middle of the fresh milk production chain: It sells the milk from its cooperative members to the milk industry IPS. IPS is a single buyer. GKSI provides the following services to the farmers; feed supply, a guaranteed payment of milk, semen supply and artificial insemination, veterinary consults, transfer of knowledge and innovations by extension workers, and the sharing of the yearly results of the cooperative.

For the next years, school milk and the promotion of fresh milk are on the program. Furthermore, it will be tried if cooperative processing is feasible and competitive, whether marketing can be strengthened, and several innovative technologies will be tried.

The PowerPoint presentation can be found in Part II of this report.

Questions, answers and discussion

Chaired by: Naomi Torreta

National Dairy Authority, the Philippines

Vietnam

- The milk quality is dictated or controlled by the buyer. The company has standards and quota. For payments the producers are grouped, but on every payment the price calculation is shown.
- The government and the company work together. The company provides training, the government provides free stock, and the costs for collection and quality checks are shared. The milk is competitive with the market price. Competition between companies in the countryside is low.
- Farmers have to lower their costs of production to be more competitive. Improving milk quality increases the income of farmers. Subsidizing is not sustainable.

Indonesia

- Indonesia received support from the Dutch government.

Thailand

- Companies in Thailand do not do extension work anymore.
- When the prices of milk are low, the industry produces more skimmed milk.

- Forty years ago, the government started to contract farmers to buy a crossed female Zebu calf. However, as the cow did not produce enough, farmers wanted back their money to buy a purebred. The first years were indeed more productive, but after several years they had problems with feeding and health care, and farmers changed back to crossbreds.

Table 3.1	List of priority issues perceived necessary to address				
PRIORITY ISSUES	VIETNAM	THAILAND	INDONESIA	PHILIPPINES	MALAYSIA
Milk Quality & Milk Price Hike (9)	I	IIII	III		I
Role of Government (4)	I	II			I
Role of Stakeholders (2)	I		I		
Better Use of Resources (1)	I				
Milk Production Cost (1)		I			
Effective Extension Service for better quality milk and profitability (4)		I	II		I
Farmers' Attitude (1)		I			
Cooperative Development/Institution Building/Capacity Building (5)		IIII	I		
Feeds Availability /Quality (4)		IIII			
Effects of Free Trade Agreement (1)		I			
Product Development (1)			I		
Single Buyer (1)			I		
Herd Improvement & Build Up (4)		II		I	I
Animal Health Care (1)		I			

3.2 Experiences and lessons learnt with collection, processing, and marketing

Setting the scene: Experiences & lessons learned on collection, processing and marketing

Jan van der Lee
Wageningen UR

Abstract

This presentation highlights a number of characteristics of value chains in Southeast Asian countries, a number of key issues faced, and possible ways to deal with those issues. It serves as an introduction to the group session on collection, processing and marketing

The value chains for milk in ASEAN countries often have rather weak links between chain actors, as evidenced by changing relationships of producers with input suppliers and with processors. Processors and retailers face difficulties in sourcing milk locally, rather relying on imports of milk powder and packed products. Farmers face difficulties in marketing their milk against attractive prices and without regular rejection. Collection efficiency often is low. Affordable inputs are not always available. Seasonal fluctuations in supply (hot season) and demand (school holidays) cause marketing difficulties. Chain integration, chain embedded services, and dairy zoning may offer solutions. Existing models deserve scrutiny.

Product Quality Assurance still needs development, with questions where to start (at farm level, on the collection side, or with consumer demand) and whether the sector or the government should take the lead.

Value chain coordination in most countries needs development, to speak on issues of common interest on behalf of the sector. Value added in various steps of the chain often needs to be better distributed, which requires reduction of costs and distribution of profit.

High costs of production, collection, and processing make it hard to compete against imports, and not all governments create the taxation and tariff windfall needed to develop the sector to maturity. Low consumer demands on quality of fresh milk do not help. Reducing the cost price seems to be a priority requirement.

The question remains whether *large scale or small scale production and large scale or small scale processing* is best suited for ASEAN markets. Smallholder production shows more resilience against market fluctuations, but it is difficult to generate sufficient volume. Niche marketing seems to be an important opportunity that warrants attention (special demands for fresh milk, school milk schemes, and quality local products).

Last but not least, the *enabling environment* generated by encouraging policies and good quality capacity development services are essential prerequisites for further development of the sector. What would be most useful: Import levies or improving the definition of fresh milk?

The PowerPoint presentation can be found in Part II of this report.

Milk quality control- the Malaysian government scheme

Shariffah Noorhaimi

Division of Livestock Commodity

Abstract

Raw milk quality is very important for the quality of milk and dairy products made of it. Therefore, quality of raw milk is under strict control. Every milk delivery is inspected on certain quality parameters. Low-cost methods for milk quality control will help produce and sell dairy products of consistent good quality.

Milk quality control is the use of various tests to ensure that milk and milk products are safe, healthy, and meet the standards for chemical composition, purity, and levels of bacteria and other micro-organisms. The following tests are done at the Milk Collecting Centres:

- Organoleptic – just looking and smelling for bad smells, or abnormal colour, or contains particles, should be rejected.
- Alcohol – detects milk which is highly acidic.
- Specific gravity – detects adulteration with water or other substances.
- Methylene blue reaction test – a rapid test to find the relative amount of bacteria in milk.
- Composition - water, fat, protein and Total Dissolved Solids.
- Total Plate Count – enumeration of viable micro-organisms.
- Antibiotic residues – detects milk with antibiotic residues.

At the processing plants, the same tests as in the Milk Collecting Centres are repeated. The only difference is the use of Resazurin test – a rapid test to find the relative amount of bacteria in milk- instead of the Methylene blue reaction test.

Good quality dairy products can be made from good quality milk. Therefore, it is important to *grade milk* so that poor quality samples are rejected and only good milk is sold to retailers and processors. From 1985 to 1996 the fresh milk was purchased without a grading system. Purchase by grade was conducted from January 1997 until early 2007, based on eight grades. The basis for Payment is on Total Plate Count and total dissolved solids. Starting mid 2007 until 2008 the milk quality was divided into 5 grades. Incentives were given for milk of grade A and B, and penalties were given for poor quality milk. From 2009 onwards, the milk received was restructured into 3 grades which were linked to different prices.

However, there are challenges for milk quality control on the way ahead: most small scale dairy farmers still use hand milking, milking equipment is not properly cleaned, there is improper milk cooling, cows have a high prevalence of subclinical mastitis; treated and healthy cows are not properly identified and track records from withholding milk are not properly documented; and extension workers should have a thorough understanding of milk quality control to set up a mastitis control program.

The government has the following plans to improve milk quality control: upgrade the existing milking equipment in Milk Collecting Centres; equip cold chains on lease basis for dairy farmers; set up a Mastitis Control Program; and organize workshops for dairy farmers and extension workers on dairy management, inclusive feeds, milk hygiene, animal sheds and record keeping. The workshops will be organized in collaboration with the Government of the Netherlands and Dutch Lady Milk Industries in Indonesia.

The PowerPoint presentation can be found in Part II of this report.

Organization of milk collection in Indonesia

Idat G. Permana

Bogor Agricultural University

Abstract

In Indonesia almost 70,000 farmers are dairy farmers with a total dairy cattle population of almost 408,000. The dairy business provides employment for 211,000 people. The production mainly takes place on Java (92%). Outside Java, there are no milk processors, and thus only fresh and pasteurized milk is produced to cater the small market. The total milk production is 682,000 tons per year, which is only 20-25% of the demand for milk. The demand for fresh milk products is increasing, and thus one of the main challenges is to produce more high quality milk.

The milk collection in Indonesia is organized in the following way. In the villages, the farmer brings the milk to a milk collection point. There are several hundreds of these, and here alcohol and density checks are done. From the collection point it is transported by truck to a cooling centre at the Milk Collection Centre (MCC). At the MCC, several more quality checks are done (total solid, SNF, fat, protein, density) and the price is set. Almost all dairy farmers are organized in cooperatives, and every cooperative has its own MCC. The government has imposed regulations for construction of both the MCC and the cooling unit to promote hygiene. From the MCC it is transported to the factories. Almost 90% of the milk goes to large dairy industries, and only 10% is distributed to small milk processors.

As said before, milk quality is low. This is caused by bad milking management, the distance between farmer and cooling unit, bad road conditions and poor conditions during transportation, the quality of the cooling unit, but also by the low feed quality resulting in low fat and protein. Main challenges for the future are to improve these, and have milk price incentives to support good quality milk.

The PowerPoint presentation can be found in Part II of this report.

Marketing in the Philippines

Danilo G. Fausto

Dairy Confederation of the Philippines; Talavera Dairy Cooperative, Inc.; DVF Dairy Farm, Inc.

Abstract

In the Philippines, the local market is not producing sufficient ruminant derived products to cater for the demand. For example, the local dairy production is only 2% of the demand for dairy products. Also, half of the buffalo beef is imported and 33% of beef comes from other countries. Nevertheless, from 2008 to 2009 the dairy herd increased, the number of dairy farm families increased (from 14,405 to 15,212) and the number of dairy cooperatives increased (from 317 to 347).

Ruminants are with the smallholders. Industrial keeping of carabaos (water buffaloes), cattle and goats is almost zero (resp. 0.2%; 6.1%; 0.9%). Improving ruminant production in the Philippines thus requires a social agenda: achieving growth and food security, and reducing rural poverty and rural-urban income disparities.

As carabao milk contains more fat, proteins and nutrients, it is a wanted product in the Philippines. The animals are more adapted to the climate and easier to care for than dairy cattle. DVF farm started milking

and processing of carabao milk. Farmers deliver the milk at the processing plant, where the quality is controlled, and the milk pasteurized and homogenized. Afterwards it is (partly) further processed (yoghurt, cheese, milk drinks), packed, and distributed. Farmers earn more than 1/3 of the end value of their products. The promotion of carabao milk is done on markets, festivals, and milk is sold at supermarkets.

The Philippines does not maintain any standard for labelling milk as 'fresh milk'. This is a disadvantage for niche marketing of locally produced milk, and milk thus has to compete with the imported powder milk. Nevertheless, the Philippines has several advantages for dairy production. Most of the land suited for dairy is in the close proximity of major cities, and thus allows fresh milk, premium cheese, yoghurt and ice-cream to reach the consumer after 5-6 days in a cold chain. Secondly, large rive-fed plateaus and high rainfall provide the largest grazing resource in East Asia. And finally, a large rural labour force is available that will benefit from employment, and at the same time production costs can be kept low as labour is abundant.

The PowerPoint presentation can be found in Part II of this report.

Questions, answers and discussion

Chaired by: [Rohana Saffinah](#)
FrieslandCampina, Malaysia

Key issues

- Political will (high-level policies)
- Pricing control and incentives
- Farmers' education and training
- Farmers' attitude and participation
- Lower cost of production
- Increasing feeding costs
- Where to buy animals

Carabao milk in the Philippines

- The Philippines' government has restricted the sourcing of animals, and only from countries free of Foot and Mouth Disease (FMD) animals, embryos, and semen can be imported. For carabao production the Indian Murrah breed is used, sourced from Brazil and Bulgaria.
- A family caring for 3 animals may, with proper caring, be able to earn enough money to live above the poverty threshold
- Statistics show that low import tariff on milk prevents the milk industry from growing
- Issues and concerns in the carabao milk production
- Need for more animals to accelerate herd build-up. But even if funds are available, there are very limited places where the animals can be sourced, because of government regulations on procurement from FMD-free countries. There is a need to finally determine if FMD is passed on thru the semen (FAO and OIE).
- Education and training of farmers

Is there a school feeding program in your country?

- Malaysia – Yes, it started off with skimmed milk, but they are now shifting to fresh milk
- Indonesia – Not as a regular program, only for promotion
- Philippines – Yes, but very insignificant and irregular. Funds are sourced from various pork barrel funds of politicians and they come sporadically. Last year, the US government donated powdered milk worth US\$7.5M under the Food for Progress program for the typhoon victims.

Competitiveness

- Fluctuating world market prices affect the local milk prices. Another factor influencing the price is milk quality.
- To protect local prices, governments can adjust tariff
- To protect farmer's income, improve efficiency, and cut costs
- Set up a pilot project to demonstrate farmers that productivity can be improved using a certain system. When they see positive results, they will follow.
- Governments & universities should assist in educating farmers
- Compare your production costs with those around you, and see what you can learn from each other to reduce these costs
- Governments should take a look at land use, because increasing costs of land is driving up feed costs.
- Farmers need tailor made solutions to be more competitive. Reducing feed costs is a way to cut costs and earn more income, however improvements in milk quality is another way to earn more.

4 Value chain coordination, regional approaches and experiences, and country-group discussions

4.1 Value chain coordination for an efficient sector

Bram Wouters

Wageningen UR Livestock Research

Abstract:

Value Chain Coordination for an Efficient Dairy Sector

Bram Wouters (Wageningen UR Livestock Research).

This presentation is an introduction to a general discussion on value chain coordination in the different countries in SE Asia. The presentation deals with drivers for and issues related to efficient value chain coordination and an example of the Dutch Dairy Board is provided.

Drivers for chain coordination could be to have a platform, network for private sector and government for advocacy or advice regarding sector policies. Coordination could be also required for regulations in the chain (licences, enforcement) and/or delegation of responsibilities of government to private sector. Other drivers for coordination include the need to address issues of common interest like e.g. improvement of milk quality or the promotion of milk and dairy consumption. In the case of India the National Dairy Development Board coordinates dairy development activities which could be also a specific driver.

When coordination of the value chain is institutionalized, there are a number of issues to take into account:

- Definition of common goals and interests is important (create a win-win situation for participants)
- Clear definition of goals, tasks and approaches of the coordinating body
- Representation: way of representation, role of government, private sector and enabling organisations.
- The organisational set-up
- The legibility of the organisation: legal status and mandate
- Funding- how to organize funding

An example of a coordinating body with a large mandate is e.g. the Dutch Dairy Board. This board is a product board under government supervision but governed by private sector parties. It has a legal status and legal mandates. On behalf of the government it implements regulations (market and quality regulations, licensing etc.). The board proposes also draft regulations and policy proposals.

The PowerPoint presentation can be found in Part II of this report.

Discussion:

What are the experiences in the different countries represented here regarding value chain coordination?

In Thailand prices are controlled. There is a committee to survey the farm gate prices/ overhead/ cost of production every month. Based on this, prices for farmers are set. It is not easy to control the price, and often, there is a need to increase the price. In Thailand there is a Dairy Board, consisting of representatives of the government, the private industry (6), and farmers (6). The legal body appointed seven subcommittees.

In Vietnam associations are active. There is one cooperative active (supported by Canada), with more than 800 families as member. Services and collection are outsourced to private companies. This construction is different from private companies. So far it is not sure whether it will work. Milk prices in Vietnam depend on the processing companies and there is fair competition. In general there is no coordination in the dairy value chain.

In Malaysia, there is no dairy board but there are strong ties between the government and the private sector. Price structure is based on quality: the better the quality, the better the price. There is good communication of information from the government to the farmer.

In Indonesia, there are associations for milk marketing, with farmers and cooperatives as members, but often with one single buyer. Some industries use the TPC for price setting, some use other ways. We should make a standard for milk price setting, where the farmer makes a daily report. The problem here is political will, the 25% local mix, and the strong position of imported milk. The government is a weak coordinator.

In the Philippines, the government does little to support coordination and dairy development. There is no feeding program, no tariff barriers, and no increase in production. The Philippines imports pregnant heifers from New Zealand for exorbitant prices and a lot of money is spent. There is not one single 'road map' on where to go. There is the National Dairy Authority for cattle, the Philippine Carabao Centre for buffaloes, and a Ministry of Agriculture which is completely focused on rice production. Dairy is not on the radar of the government, and every farmer follows his own 'road map'. Although the government is not very helpful, universities are

In Myanmar, dairy production is sufficient. However Myanmar cannot compete with the imported milk. Farmers and government are looking in the same direction, and there are many producers. The price is controlled by the processor, and there is a fair competition among processors.

In terms of chain coordination, there are a number of tasks, and there is limited experience. However, there is a need for bringing the different stakes together, e.g. in the development of pricing policies. Do we or don't we need a dairy board? Shall there be coordination or is there no need for coordination?

- FAO should play a role in the coordination, with their focus on smallholders
- In Indonesia farmers, industry and government should coordinate better
- For private companies in Vietnam, it is good to have a coordinating body. The government, business and the farmers should share both benefits and responsibilities. The government should take the lead here.

It was concluded that there is a need for coordination, where the government should take the lead. A Dairy Board could play an important role in the coordination of milk production.

4.2 Regional approach, regional programs and experience with networking

Discussion chaired by [Vinod Ahuja](#)

Livestock Policy Officer, Food and Agriculture Organization of the UN
Regional Office for Asia and the Pacific

Discussion:

Regarding regional approaches, some general lessons were learned during these days. Discussions focused on increasing competitiveness through increasing productivity (improving the genetic potential) and reducing cost price. The example in Thailand underscored that not only the supply side, but also the demand side are important to address. What do consumers want regarding quality and food safety? How do they want the dairy sector to produce the milk? And what is the role of the government; in how far should it intervene to ensure that product quality is maintained?

Various countries show different systems for the delivery of services, both by the public and private sector. The experience from Vietnam demonstrated a case where public and private sector join efforts to increase local production, and the private sector has an important role in the extension services for smallholders. In Indonesia, cooperatives deliver these services.

The following topics came up as interesting for regional approaches:

- *Breeding.* The genetic-environment interaction should be used to increase productivity. Successful breeds can be exchanged between regions with a similar environment
- *Disease prevention.* Collaborative efforts to stop transfer of disease, like Foot and Mouth Disease
- *Financing.* The World Bank and other financing institutes are (almost) not investing in dairy production. If forces are put together, it might be easier to push the financing sector, especially the Asian Development Bank, towards investing in dairy development. Nowadays, very little money is available for affordable financing or credit to farmers and entrepreneurs.

Here, the question is also in how far the Indonesian experience, to engage the dairy industry to invest, can be replicated.

- *Uniform standards and branding of fresh milk.* The issue of labelling “fresh milk” (UHT/ fresh milk/locally produced milk) could be handled in a regional perspective, with uniform standards for fresh milk. Can the region arrive at a common position on this?
- *Capacity building for farmers.* This could well be tackled from a regional perspective. For example mister Soriano from the Philippines sends his staff to Thailand for training in semen collection, Embryo Transfer, and other skills.

It was agreed that platforms around technical capacities do exist. But do we have to go beyond that? To create platforms that identify ‘needs’ in regional cooperation? The FAO has set up the Asian Dairy Network. The dairy industry is also making efforts to work on a regional scale, and to invest in the development of local dairy value chains.

Finally, it can be concluded that it all comes down to ‘regional competitiveness’.

Networking

Knowledge sharing depends on the quality of relationships, and on finding new and improved ways to communicate with like-minded people, colleagues, and other stakeholders. For this purpose, the online Portal of the Community of Practice for Pro-poor Livestock Communities Of Practice was set up. Through this portal, members can upload and exchange knowledge, support cooperation and common initiatives, participate in general discussions, post questions of specific interest, increase public awareness about the importance of livestock development in the daily lives of poor farmers, and simply share views with other development practitioners around the world.

The PowerPoint presentations of this meeting as well as this report will be shared on the Portal of the Community of Practice for Pro-poor Livestock Development (www.cop-ppld.net).

4.3 Country-group discussions on challenges and ways forward

For each specific country the most important challenges from the day before were identified, and the discussions focused on ways forward. Below, summaries from the different groups - Indonesia, Malaysia, the Philippines, Thailand (groups A and B), and Vietnam - are given.

4.3.1 Country-group discussion Indonesia

This group focused on the question of what can be done to improve dairy production in Indonesia. Actions identified include:

- Quality milk produced by farmers must fulfil the quality standards for processing later on. At the moment, there is no standardized quality of milk delivered to the Milk Processing Plant (IPS). This causes different pricing of accepted milk at different milk processing plants. Indonesian National Standard (SNI) must be followed by both parties.
- The Milk Processing Plant will receive all milk produced by dairy farmers, as long as the quality is acceptable.
- Farmers must be educated to improve their competency.
- Milk cooperatives must be revitalized to improve their performance in giving services to dairy farmers.
- The use of HF pure breed should be evaluated, as it is costly when managed in backyard dairy farmer circumstances.
- Integration between different stakeholders must be tightened to promote efficiency.
- Total national milk supply should increase to improve milk self sufficiency until a certain level.
- Feed supply (both quantity and quality), according to the farmer's needs, should be available.

4.3.2 Country-group discussion Malaysia

The discussion focused on how to improve milk quality at farm level, as the most important challenge.

The following tools for farmers in improving the quality of the milk were identified:

- A practical road map pointing out where the farmers are heading to. Indicators to measure progress should be standard and simple.
- Capacity building, identifying the training needs:
- Link farmers and experts - experts can be other farmers, Dutch professionals, industry professionals. Needed are (industry) people who can convey the problems and issues to the farmers and link the farmer, his work, and the results. Qualities of such experts are: confident, competent, credible, well informed; and able to bring together farmers, government and professionals.
- To reduce bacterial counts in the milk -> identification of the trainers -> training of trainers -> delivering better results
- Farmers-exchange of knowledge: Model farmers and demonstration farms; Farmer to farmer trainings / the DVS.
- Engage industry professionals who are confident to say what is right and what is wrong (do we have people like that?) experts from the Netherlands, however it is too costly to have them work on full time basis.
- Provision of services by practitioners and professionals, based on a relation of trust.
- "Farmers say farmers do" (how do we kick start and sustain), identification of needs, school milk feeding program. The demand for school milk can be a push factor for the farmers to attain milk quality. Governments are regulators.
- Decrease the credibility gap.

What can be done on a regional scale? The exchange of credible people, expertise, and information is something that should be stimulated.

4.3.3 Country-group discussion Thailand

Group A

Challenges identified:

International agreements:

- The Free Trade Agreements towards 2025: Thailand's high tariff barriers are partly eliminated since 2005, or are phased out over an agreed timeframe (by 2015 or 2020). Tariff rate quotas for skimmed milk powder and liquid milk and cream will be eliminated in 2025.
- World Trade Organisation -> abolition of the milk quota regime.
- Price control by the government.
- Unlimited increase of Cooperatives and Milk Collection Centres.
- Milk quality is inconsistent.
- Farmers' attitude.

Solutions:

- Free enterprise.
- Strengthen the cooperatives, and limit the number of private and cooperative Milk Collection Centres.
- Complete the dairy chain business evaluations.
- Extension, Research and Development should focus on dairy farm sustainability.
- Strengthen standards: Good Manufacturing Practices & Public Law on Food Safety, both for Milk Collection Centres and milk manufacturers.

Group B

In group B of Thailand, milk quality came forward as one of the main challenges. In the group it was discussed what features affect cleanliness, and what features have an effect on composition. Based on this scheme, the solutions have to be sought in improving these features. The following table is a summary of the discussion.

Table 4.1 Milk Quality in Thailand		
	Affecting Cleanliness	Affecting Composition
Farmers - income	V	V
Attitude	V	
Production		V
Incentive	V	V
Milking Hygiene	V	
Health	V	
Collecting centres - scale and standard	V	V
Knowledge	V	V
Training: - Area Background - Attitude - Intensive program	V	V
Water quality	V	
Milk Board	V	V

Breed		V
Feed and Feeding		V
Feed roughage		V
Limited government assistance	V	V

4.3.4 Country-group discussion the Philippines

Table 4.2 Main challenges and solution in the Philippines	
Main issues	Solutions and options
Tariff of milk imports and skimmed milk importation	a) Renegotiate with WTO specific dairy products tariff, e.g. Australian milk costs less in Manila than in Melbourne, a case of dumping? b) Direct tariff should be used for dairy development. c) More controlled importation to avoid dumping (Note: consider the issue for donations/relief).
Health and diseases, breeding	Thailand to establish FMD free zone, so that the Philippines can import its genetic materials from Thailand, which might be cheaper.
Milk standards, honest labelling, and unfair competition. At the moment, milk standards are set by the Bureau of Product Standards (BAPS). They define pasteurized and UHT milk also as "fresh milk".	Request the BAPS to re-define "fresh milk". (Fresh milk—raw or pasteurized liquid fresh milk, with no change in form and nothing added).
The role of the government and the dairy industry	a) Let the market dictate the success of private enterprises. b) Government should provide the standards and let the market flow, they should not compete with private enterprises.
It's hard to find financing for agriculture	a) Government should course loans to organized producers. b) Processors can guarantee the loan; a good guarantee results in lower friendlier loans.

Note: the country group discussion from the Philippines includes the contribution from Myanmar

4.3.5 Country-group discussion Vietnam

Challenges:

- Competitiveness with imported milk, when Vietnam joins the WTO there will be less import tax.
- Dairy feeds (ingredients): now 50-60% is imported, and thus available at world market price. This means that feeding costs for dairy farmers depend a lot on world market price.
- Quality and safety of milk.
- Issues related to environment (farming -> processing).

How to deal with these challenges:

Regarding the first two challenges:

The government and private cooperatives should focus on:

- better use of locally available resources
- land (planning for dairy zones)
- feeds (better use of by-products)
- labour

Improving the productivity of dairy, through:

- lower milk production costs
- extension (services and training)
- improved farm management

Regarding the last two challenges:

The government could lead the initiative to establish a Dairy Board for dealing with quality and safety of milk, and the environment. A National Dairy Board could play a role in:

- regulating quality and safety
- regulating issues regarding the environment
- raising awareness and creating involvement of all stakeholders, from producer to consumer

It would be good to:

- improve exchange and learning from other countries, where the above challenges are successfully dealt with
- come to regional cooperation; there is a need to establish a 'regional dairy development board', with support of FAO/ UNDP or another international organization
- have annual workshops to improve learning and serve as a forum to establish regional cooperation

5 Business presentations and excursion

5.1 Business presentations

Four presentations from businesses with their headquarters in the Netherlands were given. They gave insight in the companies work and, where applicable, their work in SE Asian countries. This session was chaired by Mr. Hans van Santen, Deputy Head of Mission, Embassy of the Kingdom of the Netherlands. The following presentations were given:

- **Foremost Thailand and Dairy Scene** - *Ronayoot Chongcharoenrat, FrieslandCampina*
- **A healthy start with better milk** - *Marc Spackler, Nutrifeed*
- **Asian dairy: Gain or Pain?** - *Siebren van der Zwaag, The Friesian*
- **Nutreco Ruminant Innovations and Concepts** - *Lammert Veenhuizen, Nutreco*

The PowerPoint presentations can be found in Part II of this report.

5.2 Excursion

5.2.1 Visit to a Milk Collection Centre: the Muak Lek Dairy Cooperative

Muak Lek Dairy Coöp. Ltd. Address: 99, Moo 10, Mittraphap, Muak Lek, Saraburi 18180, Tel. 66.36.341493 – 4

The Muak Lek Dairy Cooperative was founded in 1982. It is an agricultural Cooperative active in the area of Saraburi and part of Nakornratchasima province. It has 850 members who own approximately 13,500 dairy cows that produce 87,000 kg of milk per day.

The key activities of the cooperation are:

- Running two Milk Collection Centres and selling the milk to 7 different processors
- Providing soft loans to members, to improve their farms and increase milk production
- Running a kiosk with farm inputs and household goods for members
- Providing farm services (e.g. mastitis checks)
- Running a feed mill
- An improved pasteurization plant is under construction.



5.2.2 Visit to the Dairy Promotion Organisation farm

The Danish government and the Danish Dairy Farming Association together offered a promotion project on raising dairy cows. Herein, they cooperated with the Thai government to establish the Thai-Danish Dairy Farm (TDDF) and a training centre in Muak Lek District, Saraburi. This farm and processing plant can be visited for training and for tourism/promotion purposes. Having these farms for multiple purposes is a nice example of niche marketing.



6 Main findings and recommendations

Southeast Asian countries, united in ASEAN, have a lot in common when it comes to the development of the dairy sector and the dairy value chain. Dairy has no long tradition and milk production is low. However, the need for dairy products is increasing steadily, while the dependence on imported milk is growing.

Most of the milk is produced on small farms (around 5 cows). Inefficiencies in the chain, low productivity, problems with milk quality, as well as institutional obstacles make products from these local value chains less competitive than imported products. These imported products can be sold cheaply due to free trade agreements.

During the meeting, international developments, national policies and experiences, lessons learned and challenges from different phases in the value chain were presented and discussed. It became clear that countries face similar challenges:

- How to produce milk at lower cost price? (for instance, through better management, more efficient use of means, and the reduction of transition costs); and
- How to improve milk quality? (for instance, through more advanced payment systems, better on-farm training).

To make local dairy chains more competitive, apart from improved productivity and milk quality, a more efficient supply of inputs and services is necessary. The organisation of this supply by the private sector (dairy industry) only works properly if the processor is assured of a stable supply of milk. More coordination between supplying and processing companies is therefore essential.

Relevant government agencies are encouraged to review their policies around value chain support, value chain coordination, dairy imports and desirability of import substitution. Sector performance varies much between the different countries. Government policies around importation and government support interventions across the value chain play an important role in this. In countries where government policies favour growth (like Vietnam), a large increase in local dairy production is achieved. In countries with less involvement of the government and without a strong dairy business (like the Philippines), growth is almost absent. The division of tasks between government and the private sector generally is not clearly defined. In most countries, value chain coordination is limited to pricing (e.g. in Thailand). Coordination and cooperation in the value chain can be improved, for instance, through establishment of a dairy board.

On a more regional scale the exchange of services and sharing of expertise and knowledge promises a way forward. Public, private and civil society actors can all play a role in facilitating and encouraging such exchange.

Annex 1 - Programme

8 December 2010

8:30-9:10	REGISTRATION	
9:10-9:35	<p><i>MC - Dr Somkiert Prasanpanich (Kasetsart University)</i></p> <p>Welcome by Daphne Dernison (Agricultural Councillor, Embassy of the Kingdom of the Netherlands)</p> <p>Opening by Chaveewan Viriyapak (Deputy DG of Thai Department of Livestock Development)</p> <p>Introduction to the program by Jan van der Lee (Wageningen UR)</p>	
9:35-10:05	<p>Keynote: Global trends and dairy development in Southeast Asia</p> <p>Speaker: Bram Wouters (Wageningen UR)</p>	
10:05-10:35	COFFEE BREAK	
10:35-10:55	<p>Presentation: Dairying In Asia: Opportunities and Challenges</p> <p>Speaker: Vinod Ahuja (FAO)</p>	
10:55-11:15	<p>Discussion on the general challenges</p> <p><i>Chair: Dr Pravee Vijchulata</i></p>	
11:15-12:00	<p>The role of the government in developing the dairy value chain</p> <p>Presentations:</p> <ul style="list-style-type: none"> Indonesia - Bess Tiesnamurti (ICARD) Thailand - Sinchai Ruengpaiboon (DLD) Vietnam - Do Kim Tuyen (Livestock Production Department; MARD) 	
12:00-12:30	<p>Discussion on the experiences and lessons learnt in regard to the role of the government</p> <p><i>Chair: dr Pravee Vijchulata, dr Somkiert Prasanpanich (Kasetsart University)</i></p>	
12:30-13:30	LUNCH	
13:30-16:00	<p>Experiences and lessons learnt with the improvement of production, input supply, and services</p> <p>Presentations:</p> <p><i>Setting the scene</i> –Bram Wouters (WUR)</p> <p><i>Dairy farming in Vietnam, Dairy Development Program</i> - Luu Van Tan (Dutch Lady Vietnam)</p> <p><i>Sustainable livelihood and the smallholder dairy farming in the Philippines: some insights and challenges</i> – Ma. Victoria O. Espaldon (UPLB)</p> <p><i>The role of cooperatives in input supply and services; the case of GKSI in Indonesia</i>- Yusup Munawar (GKSI)</p> <p>Discussion on challenges, possible solutions and required interventions.</p> <p><i>Chair: Naomi K. Torreta (National Dairy Authority, Philippines)</i></p>	<p>Experiences and lessons learnt with collection, processing, and marketing</p> <p>Presentations:</p> <p><i>Setting the scene</i> –Jan van der Lee (Wageningen UR)</p> <p><i>Milk quality control, the Malaysian government scheme</i> - Shariffa Noorhaimi (DVS)</p> <p><i>Organization of milk collection in Indonesia</i>- Idat G. Permana (Bogor Agr. Univ.)</p> <p><i>Niche marketing in the Philippines</i> - Danilo V. Fausto (DVF Dairy Farm Inc; Dairy Confederation of the Philippines)</p> <p>Discussion on challenges, possible solutions and required interventions</p> <p><i>Chair: Rohana Safinah (FrieslandCampina, Malaysia)</i></p>

15:00-15:15	COFFEE BREAK
16:00-17:00	<p>Plenary- Importance of value chain coordination for an efficient sector</p> <ul style="list-style-type: none"> • Models for value chain coordination • Challenges and experiences of value chain coordination in different countries • Link with Dutch dairy sector • Lessons learnt and opportunities <p>Presentation and discussion: Bram Wouters (WUR) Chair: : Dr Pravee Vijchulata</p>

9 December 2010

8:00-12:45	Dairy Fair- (companies presentations with stands, posters; all conference)
8:00-8:15	Summary of challenges and lessons learnt from the discussions of the first day
8:15-8:45	<p>Discussion: A regional approach Regional programs and experiences with networking Chair: Vinod Ahuja (FAO)</p>
8:45-9:30	<p>Discussions in country-groups. Dealing with the challenges; “What can we do?”</p> <ul style="list-style-type: none"> • How to deal with the most important challenges from the first day in the specific countries? • Which challenges can be tackled together with other countries, and what is needed for that? <p><i>Chair: Jose Q. Molina (AgsPart2020 Foundation), Somkiert Prasanpanich (Kasetsart University), Rohana Safinah (Dutch Lady), Do Kim Tuyen (Livestock Production Department), Adiarto (Gadjah Mada University)</i></p>
9:30-10:00	COFFEE BREAK
10:00-10:15	<p>Presentation; Future cooperation in dairy value chain development Speaker: Hans van Santen (Deputy Head of Mission, Embassy of the Kingdom of the Netherlands)</p>
10:15-11:15	<p>Presentations from private enterprises Chair: Hans van Santen (Deputy Head of Mission, Embassy of the Kingdom of the Netherlands)</p> <ul style="list-style-type: none"> - Foremost Thailand and Dairy Scene- Ronayoot Chongcharoenrat (FrieslandCampina) - A healthy start with better milk - Marc Spackler (Nutrifeed) - Asian dairy: Gain or Pain? - Siebren van der Zwaag (The Friesian) - Nutreco Ruminant Innovations and Concepts - Lammert Veenhuizen (Nutreco)
11:15-11:30	<p>Concluding remarks and closure Hans van Santen (Deputy Head of Mission, Embassy of the Kingdom of the Netherlands)</p>
11:30-12:00	Continuation Dairy Fair
12:00-13:00	LUNCH
13:00-16:30	<p>Excursion (optional)</p> <ul style="list-style-type: none"> • Visit to Muak Lek Dairy Cooperative and milk collection centre – Muak Lek • Visit to DPO dairy farm (Dairy Farming Promotion Organization)- Saraburi
16:30	Transport continues to Bangkok -for international participants -

Annex 2 - Additional papers

Lessons learned on sustainable smallholder development in Myanmar

Dr. Khin Hlaing

Myanmar Dairy Association

Abstract

Success stories of smallholder dairy producers in Myanmar are in sweetened, condensed milk production and pasteurized, ready to drink milk production. In Mandalay Division in upper central Myanmar, Kyauk Se, Tadar Oo, Sint Gaing, Myit Thar and Ngazon townships are accepted as milk business regions. They are located in irrigated lands where natural resources from agriculture are abundant, roughages crops and pastures are easily available, and dairy cows became an extra source of income to most of the farmers whose subsistence relied on agriculture.

One to three cows are kept in nearly every household. Milk collectors come daily and milk the cows by themselves and take it to the milk collecting centres run by dairy plants. Each milk collector usually carries 40 to 60 Kg of milk by bicycle. Myabuyin dairy plant, the biggest dairy plant in Myanmar bought 90% of milk from these regions for condensed milk production.

Table	The amount of milk supplied to Myabuyin dairy plant	
Year	Supplied milk volume/day (Kg)	Remark
1983	1600	Manual processing by using bath tub
1990	9600	Start modernized processing
1999	14400	Quality raw milk available
2003	56000	Full capacity for the plant

The milk processing plants became developed and upgraded from manual to mechanized processing but daily supply was progressing sluggishly during the years (1990-1999), owing to the conflict between the needs of quality milk by the plants and the supply of adulterated or low quality milk by greedy milk suppliers. But in 2003, when the incentive payment system was introduced, milk production of smallholder farmers increased up to four times within four years (1999-2003). In 2006, the dairy farmers from these townships produced on average 112,000 Kg of milk daily. With two big dairy plants which can process over 50,000 Kg of milk a day and 67 manual dairy plants, the business of small scale dairy producers became sustainable.

The other success story is the pasteurized milk production in Yangon. In 1995, WALCO dairy plant initiated the production of pasteurized milk from milk obtained from small holder dairy producers around Yangon. The hygienically processed milk was accepted by consumers. The pasteurized milk market flare along when supermarkets started appearing in Yangon in 1997. The fair payment on quality milk led to an increase in number of cow breeders and milk collectors. Following the systematic procedures exercised by the entrepreneur, seven new brands of pasteurized milk penetrated the market in a decade (1997-2007).

Over five hundred households of dairy farmers and milk collectors from the periphery of Yangon, make their living on the pasteurized milk chain and the good quality of their raw milk led to the expansion of milk business, from just pasteurized milk, to other value added products, such as yoghurt, butter, butter oil and cheese etc. Thus small holder producers in Yangon can get x 1.7 times higher prices than those in Mandalay, where only condensed milk is processed. Payment in advance by dairy plants, increased the number of milk cows and about ten tons of pasteurized milk can be produced daily in 2007.

An example on the other end is the biggest dairy plant in Yangon that produces condensed milk cans - 30,000 Kg of milk per day- and started running in 1983 on milk collected from dairy farms along the Yangon-Pyay highway. A problem was that the factory did not take the quality of raw milk into account so that supplier dairy farmers concentrated more on quantity than quality of milk. In the long run, the plant could no longer rely on the poor quality milk that, at last, in 1995, turned to use the imported milk powder instead of fresh milk. The market loss of raw milk affected the livelihood of over a thousand dairy farmers along the milk chain in 11 townships on the 180 mile long high way, between Yangon and Pyay. Milk cows were sold out and farmers had to change their living. After a decade, the same plant started collecting fresh milk again, repeating the same mistake by concentrating on quantity rather than quality. It didn't affect the pasteurized milk market chain of the different finished products, but caused instability in milk prices and therefore the plant itself cannot produce good products.

Lessons learned in Myanmar

In the upper Myanmar case, the quality milk market chain established on mutual trust between farmers and processors, benefited to the livelihood of over 12,000 families, including farmers, milk collectors and dairy plant workers. The extra income by milk cows provides funds for education, health care etcetera in a household. If only...

- More effective artificial insemination is provided to get good breeds of 3-4 times more milk production.
- Infrastructure, such as electricity and transport can be upgraded; milk can be collected in cold chain and reach the plant intact in shorter time for better quality milk products and more income.

In the Yangon case,

- The emergence of ready-to-drink milk market benefits consumers, especially students and children in urban areas with access to super markets are targeted.
- The incentive payment system for quality raw milk lends mutual benefit between smallholder producers and processors thus improving dairy business.
- The constraint is that the insufficient electric power makes production cost higher, and even selling the perishable raw milk in plastic bags is more profitable than hygienic pasteurized milk.
- Tax rates should be lowered on the domestic value added milk products.

In the dairy plant case,

- 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.
- Permits for importing and producing condensed milk should only be issued after checking the standard qualities of condensed milk.

Development of the dairy industry in Indonesia

Dr. Adiarto

Universitas Gadjah Mada Yogyakarta Indonesia

Abstract

Indonesia, with more than 200 million people, is a developing country that starts improving its living standard with a focus on increasing the consumption of animal products, such as milk, meat, and eggs. At the moment, Indonesia is only for 25% self-sufficient on milk (679.200 tons) and the rest must be fulfilled by importation of skimmed and whole milk powder, and anhydrous milk fat. The improvement of living

standards, as well as better education, followed by the increasing of milk consumption, resulted in a larger national demand of milk.

Indonesia is recognized as the biggest consumer of milk powder in the world, and a variety of recombined milk products are available in the market. According to Department of Industry Republic Indonesia (2008), the consumption of fresh milk in Indonesia is very low -close to only 18%, and far lower compared to India (98%), Thailand (88%), and China (76.5%). Nowadays, some food nutritionist and dairy technology experts suggest that ideally milk from pasteurized fresh milk is consumed, rather than milk powder to get more of the nutritive value of milk.

The sharing of national fresh milk production on national milk demand shows a continuously decreasing trend from year 2003 to 2007 as indicated in the table below. Furthermore, it shows that consumption of milk is still low, and importation of milk tends to increase continuously to fulfil the national need. When the performance of national dairying is not improving significantly, the dependency on imported milk will be larger and larger, and finally Indonesia is going to face 'the food trap of milk'.

Table	Sharing of Fresh Milk and Imported Milk Toward Milk Consumption				
	2003	2004	2005	2006	2007
National population (million people)	215	218	220	222	224
Fresh milk production (tons)	466,500	463,600	451,800	519,700	536,900
Net milk import (tons)	967,550	1,605,220	1,594,200	1,804,600	1,808,400
Milk consumption (kg/capita/year)	6.67	9.49	9.30	10.47	10.47
Total consumption (tons)	1 434 050	2 068 820	2 046 100	2 324 400	2 345 300
% Fresh milk toward consumption	32.5	22.4	22.1	22.4	22.9
% Milk import toward consumption	67.5	77.6	77.9	77.6	77.1

Source: Indonesian Ministry of Industry, 2008..*Development model of policy on Milk Processing Plan*. Directorate General of Agriculture Industry and Chemical

There are three important issues that influence the performance of dairy industry in Indonesia:

1. Low productivity of dairy animals

Since 1979, the dairy industry in Indonesia has been using Holstein Friesian (HF) imported from Australia and New Zealand. The choice for this breed is based on the simple idea that the HF breed can easily adapt in the tropical environment, and is a high milk producer. However, tropical areas -with high temperatures and humidity- are not really suitable for the temperate HF breed and causes heat stress (Van den Berg, J.T.C. 1990. *Strategy for dairy development in the tropics and subtropics*. PUDOC Wageningen). A lot of problems have been faced, especially by backyard dairy farmers. Milk production is low (8-10 litres per day or less than 3.000 litres/lactation) and this is accompanied by a low reproduction performance.

2. Quality of human resources

Dairy industry in Indonesia is backboneed by backyard dairy farmers. Mostly, they have a low income, are not well-educated and skilled, and own little land. In the beginning, the dairy backyard programme aimed to generate employment and improve economic activities in rural areas, and reduce the import of milk. However, even though dairy in Indonesia has already more than 30 years of history, performance of most dairy farmers has not significantly improved. The management of dairy cows is very complex and farmers should understand the physiology of dairy cattle to serve them a proper menu. The milk cooperative is a responsible institution in transferring technologies to farmers. Skilful human resources should be available to formulate and update easy technologies that can be practiced by farmers. Encouraging dairy farmers to practice standard management becomes the first priority for a successful milk cooperative. Except technology, a milk cooperative must serve production inputs such as high quality feed, AI service, and a health service program.

3. High demand of milk

Economic growth (5.5 %/year in 2010), combined with a stable political outlook, and a growing awareness of health, will dramatically increase the national demand of milk, according to the report of USDA Foreign Agricultural Service (2009. Dairy and Products Annual, Gain Report). The national production of fresh milk is 1.2 million litres/day (48.000 metric tons) in 2008, and 1.3 million litres/day (56.000 metric tons) in 2009. Growth in domestic fresh milk production will remain limited because of several factors such as limited farmer education, high price of dairy cattle feed, poor farm management practice, limited access to high-quality genetics, and limited access to bank loans.

Plans of the government:

- Toward increasing self sufficiency of milk
The government wants to meet 50% milk self-sufficiency in 2014. Therefore, they support 200.000 heads of dairy cattle within the next five years, by providing 5% loan to any businessman or eligible milk cooperatives for purchasing breeding dairy cattle.
- Toward improvement of milk marketing
About 90% of milk produced by the dairy farmers is absorbed by Milk Industry Plan and the rest is sold in the free market or pasteurized by the cooperative. The government is looking for added value of milk through the development of a milk processing program. It is hoped that the consumption of healthy fresh milk will increase, that, there will be an increased added value of milk, more income for farmers, and more competition on the milk market.

Annex 3 - Participant list

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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.

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