

The Myanmar dairy sector: Status & business opportunities

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I. Dairy market & business climate

Consumption, production, and imports - In general the main use of dairy products in Myanmar is the use of (condensed) milk in tea and coffee. Next to fresh and condensed milk, people increasingly consume other dairy products. Pasteurized milk, yogurts and ice-cream are supplied by local processors to retail outlets in the cities. A wide range of dairy products is being imported, mainly through Singapore. These include a range of processed/value added products like UHT milk, condensed milk, evaporated milk, butter, cheese, ice cream, and flavoured yogurts, but also milk powder that is repackaged or used in the local production. Non-chilled products are distributed across the entire country, chilled products to areas with more dependable electricity supply. The latter are primarily the major towns like Yangon, Mandalay, and Naypyitaw, and to some extent smaller towns in Bago and Mandalay regions en-route between Yangon and Mandalay.

Supply from production and imports is estimated at 600,000 tons NE, which would put per capita consumption at 10-12 kg/person/year, as compared to national 2012-2013 statistics of 28.2 kg/person/year. Official imports stay stable at 50-55,000 tonnes NE. The parallel import of dairy products is estimated to be some five times the volume of the official imports. Currently less than 50% of consumption is covered by local production, and this figure is dropping. Local processing is carried out by about 50 plants that produce sweetened condensed milk and about 15 plants that produce pasteurized milk, yogurt, and butter. Total local processing is estimated to be in the neighbourhood of 150,000 kg/day.

Milk is primarily produced in three regions: Mandalay region, Yangon region, and around the capital Naypyitaw. Three main farming systems are practiced, i.e. "road side farming", low intensity medium size farms, and medium/larger scale farms with free housing systems. Dairy cattle are fed a limited amount of forage, supplemented with readymade concentrates and/or a wide range of agro-industrial by-products including brewer's grain. Only the commercial farms are growing forage crops. Although genetics are a limiting factor, productivity of the existing local breed can easily be doubled, from the current 400 to 800 kg/lactation, by providing more forage and water. Similar increases can be expected for crossbred and grade cows. Farm gate prices for raw milk around Mandalay are 500 to 800 Kyat/Viss (€ 0.25 to € 0.41/kg); around Naypyitaw 800-1100 Kyat/Viss (€ 0.28 to € 0.45/kg), and around Yangon 900 to 1500 Kyat/Viss (€ 0.46 to € 0.76/kg). At the level of farmers and collectors little to no awareness on milk quality is present.

Why this paper?

With a population of some 50-60 million people, a growing urban population, and high expected economic growth, Myanmar has good opportunities in dairy. The dairy tradition is strong enough that people will purchase dairy products as soon as their incomes permit, especially for child nutrition. Awareness on 'the goodness of dairy' is widespread among the urban population. The expected growth of the dairy market offers opportunities for Dutch companies involved in the dairy sector. This paper gives a brief description of the present Myanmar dairy sector and outlines the opportunities.

Background

Recent changes in governance of the Republic of the Union of Myanmar have led to renewed government-to-government cooperation between Myanmar and the Netherlands. As the two countries both boast rich agricultural potential, exploration of cooperation in the agricultural sector has been at the forefront of government interaction. The Netherlands Economic Mission in Myanmar has initiated a series of sector assessments, including one on dairy. This paper is a summary of the report: *The Myanmar dairy sector – A quickscan of opportunities*. by Jan van der Lee, Martin J. de Jong, Aung Myo Thant, Thiha Oo, Pyi Kyaw Lynn, and Xin Ying Ren, 2014. Wageningen, Wageningen UR Livestock Research.



Business climate and services - Various local and international companies are planning to develop new large dairy products manufacturing facilities, likely based on imported milk powder. The government generally is much in favour of private investments in the dairy sector, be they from national or international companies. History shows that the government provides much space for entrepreneurship in this sector, but it also shows the need for tailor-made policies and service provision that give the sector a fair chance. Importation of dairy products and other food stuffs is not subject to custom duties, but the usual 3-5% trade duties do apply. Myanmar has no VAT regulations. Taxes have to be paid on company profits.

Service provision to the dairy sector is in the early stages. The Myanmar Livestock Federation plays an important role in the dairy sector. It represents its members in liaison with government departments, international organizations like FAO, and international contacts. The shortage of proper education, extension and research is hampering the development of the entire agricultural sector. Except for university level veterinary sciences and the short-term training centre for government staff at Mingaladon, Yangon, no structural education and training on dairy is available. Next to what the veterinary university has to offer, there is virtually no governmental livestock extension service and livestock research capacity. A few bilateral and UN projects focus on dairy development.



II. SWOT analysis of the sector

Opportunities - The Myanmar dairy sector is a sector at early stages of development. The current economic and political environment offer a unique opportunity to rebound to the strong growth era of the seventies and eighties of the previous century. In particular the following factors contribute to these opportunities:

- strong expected growth of demand for (quality) dairy products; dairy consumption is expected to double in 8 years' time, along with growth of the middle & affluent consumer class;
- abundant agricultural resources create a conducive environment for dairy, in particular the availability of energy- and protein-rich by-products and of grazing areas at intermediate altitude in Shan, Kachin, and Chin States;
- increasing support for policies that help substitute imports;
- interest in investments in inputs & services, specifically for areas with a higher concentration of dairy production;
- good cooperation between chain actors, with sector coordination already being in place;
- world market prices for dairy are showing an upward tendency, giving local production an advantage vis-a-vis imports.

Key bottlenecks - A number of factors hamper the development of the dairy sector: the high preference of farmers (and the therewith related governmental policy) to produce rice, the scarcity of land, limited infrastructure, limited access to credit, as well as lack of skilled labour.

To capitalize on the above opportunities, the public and private actors in the sector together will need to work on two key issues to enhance competitiveness:

1. **The cost price of milk** needs to become competitive in the global market; as feeding costs generally constitute two-thirds of the cost price, improving the availability and quality of fodder - and to a lesser extent feed - is of prime importance; next to that, higher productivity can only be achieved if farm management is beefed up.
2. **The quality of local dairy products** needs to meet the standards of middle and affluent class consumers - in terms of taste, shelf-life, presentation, and public health / food safety standards.

Reduction of cost price and improvement of quality both require:

- conducive policies that support growth, especially around land tenure; the dairy sector clearly needs a well-defined and structural development strategy to be able to cover a substantial amount of its national milk requirement.
- a clustering of dairy production to a density and size that attracts private investments in inputs and services.
- investment in public services like education, research, record keeping, and quality assurance.

III. Business opportunities for (Dutch) agribusiness

Supplies

1. Improved dairy concentrates - Currently only a few concentrate factories are active in Myanmar, mainly focused on processing pig and poultry feed. Only CP from Thailand is producing cattle concentrates (feeding quality is not known). As the government is promoting and stimulating milk production, the demand for good quality concentrates (high protein) for cattle and youngstock will increase.
2. Dairy cattle minerals and vitamins - Along the lines of what is mentioned above, minerals and vitamins are to be provided to dairy cattle to stimulate milk production and youngstock growth. These are not yet available.
3. Calf milk replacer - Currently limited amounts of raw milk are provided to the calves, mostly by letting the calf suckle the udder after milking. Obvious this limited supply of milk hampers good development of the calves and thus poor youngstock growth. Provision of calf milk replacer is a good opportunity not only based on calf needs, but also from a financial point of view as it is anticipated that 1 litre of milk based on milk powder is costing less than the sales price of 1 litre of fresh milk. A point of attention for the introduction of calf milk replacer is the provision of lukewarm water.
4. Semen for AI - Currently only 30,000 doses of bull semen of a dairy type bull are produced in Myanmar. This is by far insufficient in terms of volume, moreover the genetic quality of these local bulls are unknown. Most "larger scale" farms occasionally are importing semen from NZ, USA and Germany, but they demand a more regular supply of semen as well as a wider range of bull choices.
5. Herd administration - Any form of herd administration is lacking in Myanmar. Introduction of a basic administration (paper or electronic) will surely support farm management and thus farming results. Introduction of ear tags would already be a good step forward.

On farm milk handling equipment

6. Milk cooling tanks - The larger dairy farms do need on-farm milk cooling tanks (200 to 1,000 kg) to cool and store the milk. In this way they could milk the cows twice a day; cooling of the milk will lead to a longer shelf life of the "heat treated" milk and milk products.
7. On-farm can cooling - Cooling of milk within two hours prevents the growth of bacteria present in raw milk. Milking at farms and transportation to collection points and consumers in many cases require over two hours. Introduction of simple ice bank-based can coolers (solar based) could be an eye-opener to many.
8. Stainless steel buckets and cans - Only aluminium/steel/plastic cans are used for milk storage and transport. Stainless steel is not available and would contribute to a better milk quality and product shelf life.

Milk collection and processing equipment

9. Milk collection centres - As the commercial oriented dairy is at its infant stage and as the Myanmar dairy sector has great development potential, milk processing companies will start with establishment of rural milk collection centres. These require a range of equipment.
10. Milk testing and analysing equipment (MCC- and processing level) - Currently milk quality is only tested with an alcohol and resazurin test. In the future more and better testing is required. Provision of simple testing equipment such as a lactoscan/milkotester is required. For the larger scale processing plant more accurate testing equipment is needed to determine milk composition and quality.
11. Mini milk processing plants - Currently almost all larger scale farms have a milk heat treating facility, putting milk cans in boiling water. This is by far insufficient in terms of food safety and processing larger volumes. Introduction of small-scale milk processing plants able to pasteurize milk in batches (300 to 1,000 ltr/day) or continuous-flow pasteurizers (500 to 1,000 ltr/hour) would be a significant step up. Such plants could also produce yogurt and cheese products with longer shelf life.

Forage production & harvesting

12. Forage testing and analysing equipment - No feed or forage testing facilities are available to farms. Establishment of a central testing laboratory(s) under the umbrella of the Myanmar Livestock Federation will support the development of the dairy sector.
13. Improved forage varieties - A limited range of forage crops are used, introduction of better forage crops such as Rhodes grass, luzerne/alfalfa, and sorghum will improve milk production output.
14. Basic irrigation systems for forage production - Myanmar has abundant water resources. To increase fodder production (yield, quality, seasonality), simple sprinkler irrigation systems are required. Some larger scale farmers are using these systems and are enthusiastic about the increase forage yields.
15. Bush mowers for forage harvesting - Cutting fresh grass for the cattle is a time consuming activity that has to be done 365 days/year. Time seems to be a limiting factor in the number of cows one family can manage. Introduction of a handheld motor bush mower will increase the volume of grass provided to the cattle and also the cattle numbers/family.

IV. Recommendations for future initiatives

Dairy clusters

To develop a strong and suitable dairy sector, resources and efforts of various Ministries should be combined to develop dairy zones in selected regions of Myanmar. By developing special dairy zone's, research, education, extension, animal health, commercial support services (testing, finance and input supply) as well as the processing industry can be concentrated and thus more effective in reaching interested farmers. Moreover, development of rural infrastructure (electrification, roads and communication) should be an integral part of development of these special dairy zones.

In these areas specialized forage production farms could be established to cover the need for high quality forage whole year round (incl. silage and hay production). Furthermore, governmental farmer support services such as a central lab for soil, water, forage and milk analyses should be established in order to introduce quality based milk production and to produce food safe milk and dairy products.

Potential milksheds in Shan and other States, and in Magwe and Sagaing regions need to be scouted to identify suitable areas with sufficient land and interested farmers. The process of developing dairy clusters could include the following steps:

- a. Dairy cluster design – Development of a first design to be discussed with interested companies and with MLFRD.
- b. Feasibility study dairy cluster - Scouting of prospective dairy zones, possibly in combination with a trade mission; feasibility assessment; development of second version dairy cluster design.
- c. Public-Private Partnership for dairy cluster development - Identification of partners; design production support, collection grid, UHT plant, input & service providers incl. farm advice; could include an investment component; a smallholder inclusion component; and a capacity development & innovation component.
- d. Further R&D support - research & development in connection to b and c.

Dairy strategy development

As follow up to dairy cluster planning, MLFRD could be assisted in developing a dairy strategy. A national dairy forum may be useful to develop strategy and coordinate inputs between the various public and private actors involved (Myanmar and region). This may get support from and alignment with development partners like KOICA, USAID, ACIAR, NZAid, and FAO.

Capacity development interventions

Short term training activities

- a. Cow Signal training for groups of farmers in Tatfone/NPT, maybe MDL, YNG, using a BTEC approach, in collaboration with the NZAid MDE project.
- b. PUM Netherlands senior expert program – senior expert deployment for business planning and operational support to a range of companies.
- c. Tailor made training chain-wide learning for dairy chain development that analyses the dairy chain and identifies strategic joint actions.

Longer term training activities

- d. University - Assist Yezin University of Veterinary Science in developing animal science BSc and MSc curriculum, and to improve action research and outreach, possibly through a NICHE project.
- e. Sector organizations – like MLF/MDA.
- f. Producer organizations – farmer groups for collective marketing and input provision.



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