



Benchmarking of Dairy Processor Associations

Actors and their activities in The Netherlands, Zambia and South Africa

Wim Houwers and Jan van der Lee



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Summary

This report describes a study of dairy processors' associations in three countries. As the dairy sectors in these countries are at different stages of development, the challenges these associations face are very different indeed, and so are their functions and structures. Learnings from these cases are drawn for the situation in Kenya.

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The ISO 9001 certification by DNV underscores our quality level. All our research commissions are in line with the Terms and Conditions of the Animal Sciences Group. These are filed with the District Court of Zwolle.

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Organizations mentioned

Acronym	Country	Full name	Website
General			
COMESA	International	Common Market for Eastern and Southern Africa	www.comesa.int
IFCN	International	IFCN Dairy Research Network	www.ifcndairy.org
Land O'Lakes	USA	Land O'Lakes International Development	www.landolakes.org
SACAU	Southern African countries	Southern Africa Confederation of Agricultural Unions	www.sacau.org
SADC	16 Southern African countries	Southern African Development Community	www.sadc.int
WFO	International	World Farmers' Organization	www.wfo-oma.org
Kenya			
KDB		Kenya Dairy Board, ISO 9001	www.kdb.co.ke
KDPA		Kenya Dairy Processors' Association	
SMAP		Standard and Market Access Programme	
SNV-KMDP		Kenya Market-led Dairy Programme of SNV Netherlands Development Organization	www.snv.org/project/kenya-market-led-dairy-programme www.cowsoko.com/KMDP
The Netherlands			
AVM		Algemeene Vereeniging voor Melkvoorziening	
BBZ		Bond van Boerderij-Zuivelbereiders	http://www.boerderijzuivel.nl
CMC		Coöperatieve Melk Centrale	
COKZ		Centraal Orgaan voor Kwaliteitsaangelegenheden in de Zuivel / Central agency for quality assurance in the dairy sector	www.cokz.nl
EKN		Embassy of the Kingdom of The Netherlands	
LTO		Land- en Tuinbouw Organisatie Nederland	www.lto.nl
NIZO		NIZO food research BV	www.nizo.com
NMV		Nederlandse Melkveehouders Vakbond	www.nmv.nu
NZO		Nederlandse Zuivel Organisatie	www.nizo.com
RVO		Rijksdienst voor Ondernemend Nederland	www.rvo.nl
ZuivelNL		ZuivelNL	www.zuivelnl.org
South Africa			
DSA		Dairy Standard Agency	www.dairystandard.co.za
MilkSA		Milk South Africa	www.milk.co.za
MPO		Milk Producers Organization	www.mpo.co.za
SABS		South African Bureau of Standards	https://www.sabs.co.za/
SAMPRO		South African Milk Processors' Organization	www.sampro.co.za
SASDT		South African Society of Dairy Technology	www.sasdt.co.za
NRCS		National Regulator for Compulsory Specifications	http://www.nrccs.org.za/
Zambia			
ZBS		Zambia Bureau of Standards	www.zabs.org.zm
ZNFU		Zambia National Farmers Union	www.znfu.org.zm
DAZ		Dairy Association of Zambia	www.znfu.org.zm/content/dairy-association-zambia

Foreword

This report describes a study of dairy processors' associations in three countries. As the dairy sectors in these countries are at different stages of development, the challenges these associations face are very different indeed, and so are their functions and structures.

This report does not intend to present a blueprint for development of dairy associations, but rather shows that the structure and functions of dairy associations is a response to their specific contexts. Nevertheless the study shows significant similarities between associations, and yields interesting lessons for associations in other countries, particularly for the Kenya Dairy Processors' Association (KDPA), that requested this study.

We would like to thank the KDPA and the SNV Kenya Market-led Dairy Programme (KMDP) for the opportunity to conduct and present this study. Moreover we would like to thank the various people in Zambia, South Africa and The Netherlands who contributed their time and insights.

Jan van der Lee, project leader

Summary

The Kenyan Dairy Producers Association (KDPA) is developing a strategic plan that redefines its core functions and activities as a forum that promotes the Kenyan dairy industry nationally and internationally. It also assumes establishment of a secretariat for implementation of this strategic plan. In support of development of the strategic plan by KDPA, the objective of this study was to indicate which roles KDPA can play in the Kenyan dairy sector and how to perform these roles. This was done by benchmarking the current situation, as well as the process leading to this situation since circa 1960, in three countries: Zambia, South-Africa and the Netherlands. As the dairy sectors in these countries are at different stages of development, the challenges they face are very different indeed, and so are their current functions and structures.

Available literature, documents and internet information of these countries were collected and reviewed. A questionnaire was developed and sent to targeted persons in preparation of an interview by Skype. This report elaborates on a PowerPoint Presentation that was presented and discussed during the KDPA strategic planning workshop in Nakuru, Kenya, on November 29-30, 2017; this presentation is included as Annex 2.

In The Netherlands and South Africa, the dairy processors' organizations have a membership organization structure, while the legal form may vary according to national laws. In Zambia no separate processors' association is functional, as all dairy sector actors are represented by the Dairy Association of Zambia. In all three countries, the majority of processors are members, membership is on a voluntary basis. Farm-based processors generally are not part of the same association as industrial processors.

Services provided by processors' organisations include quality assurance, policy development, consumer awareness raising and education, training, education and extension of own staff and of milk producers, and innovation and research. In the Netherlands and South Africa quality assurance systems - by accredited private companies with relationships to consumer organizations - buy credibility towards chain actors, authorities, consumers, and export partners. In Zambia this is carried out by processors individually.

Influence is created by collaboration between producers and processors: Zuivel NL and Milk SA offer formal structures for lobbying and policy influencing with the authorities and other relevant stakeholders. On a case-by-case basis, NZO and SAMPRO decide whether they will use these apex organizations or interact with stakeholders directly. In Zambia the ZNFU represents DAZ in such stakeholder relationships.

All three countries identify creation of consumer awareness - on the benefits of consumption of processed dairy products - as an important task, and have active programmes to do this.

The Netherlands (NZO) and South Africa (SAMRO) have a training structure for training of processor staff. Farmers training and extension is organized through dedicated public, private or farmers' organizations. In Zambia, training and extension is still a government task, but as the government has insufficient means to fully execute this task, parts of training and extension are taken over by NGOs. NZO and SAMPRO are both active in directing and funding research through institutes and funding programs. In the Netherlands the largest processor has a research facility on the campus of Wageningen University & Research.

Lessons learned and implications for KDPA concern structure, collaboration culture, private vs public, a large common interest, who trains personnel and farmers and who controls the quality. The best structure for the Kenyan context depends on the functions that the KDPA as organization wants to perform, and what functions actually are performed by other actors. Each country's culture and attitudes towards collaboration are different. While government usually has to perform a few obviously public roles, and sometimes steps in to 'put matters right', the processors' and farmers' organizations usually seem best off when they keep matters in their own hands. Producers' and processors' organizations in the dairy sector have a large common interest in milk quality control, consumer education and training, good communication and understanding between all players, advocacy towards policy makers, and information of the public. The dairy sector usually is more resourceful than other sectors, due to its daily flow of produce with high added value and year round cash-flow. Organization of farm management training and extension by the sector itself therefore is an option, in collaboration with government agencies and/or technical training institutions. Dairy company staff training can be organized by a

processors' association, or can be outsourced to an institution. A private laboratory that is recognized by all partners and that is accredited by the government seems a good solution to control milk quality, but other options are possible.

The structure of KDPA may thus have to be built around the following priorities:

- To build strong mutual relationships and confidence within the organization
- To develop a commonly accepted minimum standard and uniform testing procedures for milk quality
- To identify feasible mechanisms to strengthen supplier relationships
- The KDPA can pick up training, extension and education in good collaboration with government agencies, technical training institutions, development partners and donors
- To lobby the government for conducive fiscal policies
- To take the lead in developing a road map, policies and support mechanisms.

1 Introduction

Dairy is the single largest agricultural sub-sector in Kenya. The public development goals as outlined in Vision 2030 have identified agriculture in general and dairy in specific as key drivers for economic growth.

This study was made on request of the Kenya Dairy Processors' Association (KDPA). The poor state of the dairy industry after the liberalization of 1992 was of great concern to the dairy processors. This led to a meeting of private milk processors in July 1995 which led to the birth of the KDPA. The association was registered as a limited guarantee company in 1996. In March 2010, through a forum organized by the Kenya Dairy Board (KDB), the dairy processors decided to come together and revive the KDPA. This revival was driven by the milk glut experienced in early 2010, which severely constrained the processing and marketing capacities of the Kenyan milk processors.

To facilitate its objectives (see **Box 1**) KDPA is developing a strategic plan that redefines its core functions and activities as a forum to promote the Kenyan dairy industry nationally and internationally. It also assumes establishment of a secretariat for implementation of this strategic plan.

In support of development of the strategic plan, several studies were planned:

- a) Review of existing KDPA documents/plans, and of the strategic plans of 2-3 other Kenya agri-business related industry associations.
- b) Assessment of KDPA members' and stakeholders' expectations regarding KDPA services.
- c) Benchmark with similar dairy processors' / industry association in at least two other countries.

This report addresses the third study. It presents a study of dairy associations in three countries. It focuses on reviewing the structure and functioning of dairy processors' associations in the context of the wider dairy sector governance. The Terms of Reference for this benchmark study are included in **Annex 1**.

This reports elaborates on a PowerPoint Presentation that was presented and discussed during the KDPA strategic planning workshop in Nakuru, Kenya, on November 29-30, 2017, and is included in **Annex 2**.

Box 1 - Current KDPA objectives

The principal objective of KDPA is to act as a forum for the development and promotion of an efficient, organized and professionally managed dairy industry in Kenya. Specific objectives include:

- 1) Create a forum for dialogue and strengthen linkages between milk producers, processors and government so as to promote reforms beneficial to the industry
- 2) Lobby the government and other regulatory authorities on taxation policy, quality standards, import tariffs and other concessions to ensure transparency and equity among players in the industry
- 3) To enter into strategic partnerships with other organizations for mutual benefit and for the advancement of the Kenyan dairy industry
- 4) Promote consumption of processed milk
- 5) Maximize opportunities to communicate positive messages about the nutritional value of milk
- 6) Secure adequate supply of raw milk to members
- 7) To advise and assist members on the establishment, organization and management of dairy farms, milk processing plants, milk marketing, transportation and selling of milk products in Kenya and outside.

The objective of the study was to indicate which role KDPA can play in the Kenyan dairy sector and how to perform this role. This was done by benchmarking the current situation and the process leading to this situation from around 1960 to the present in three countries: Zambia, South-Africa and the Netherlands.

Available literature, documents and internet information of these countries were collected and reviewed. A questionnaire was developed to interview key informants/relevant organizations from these countries on structure, functioning and context of processors' associations. This questionnaire was sent to targeted persons in preparation of an interview by Skype. See **Annex 3** for a list of persons consulted.

2 Dairy sector governance in three countries

This chapter presents an overview of the dairy sectors in Zambia, South Africa and the Netherlands and the governance by organizations and stakeholders, such as 'commodity boards' and processors' associations¹.

Tasks and roles of key organizations are described.

Table 1. Three dairy sectors at a glance

	Zambia	South Africa	Netherlands
Number of processors			
- Medium and large	9	9	13
- Small	many	250	250
- Incl. producer-distributors	n.a	115	200
Installed capacity (million tonnes/day)	0.5 M	10 M	40 M
Capacity Utilization	36%	85%	n.a.
Collected/produced milk (million tons)	40 % * 0.44	95% * 3.2	99% * 14.3
Suppliers	3 - 4,000	1,550	17,500
Non-/indirect suppliers	300,000	n.a.	-
Self-sufficiency dairy market	n.a.	97%	300%
Quality assurance agencies	ZBS	NRCS, DSA	NVWA, COKZ
Private milk testing	processors	processors	processors + central (Qlip company)

There is little difference between the countries in terms of number of processors, be they large or small, but significant difference in capacity installed, its utilization due to seasonality, and market share of processed milk. In Zambia 73 cooperatives intermediate between processors and smallholders, with support from government agencies and NGOs. In South Africa smallholders do not appear in the statistics.

In Zambia no dedicated dairy quality assurance agency is available next to the bureau of standards. South Africa has a private dairy standards agency next to the public bureau of standards. In the Netherlands two public agencies for quality standards are operational.

2.1 Dairy sector governance in Zambia

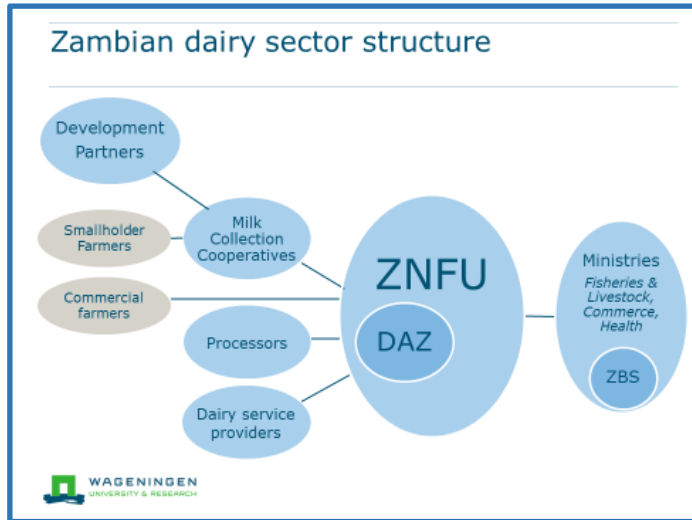
The major players in the Zambian dairy sector are the Dairy Association of Zambia (DAS), the Zambia National Farmers Union (ZNFU), the Zambian Bureau of Standards (ZBS) and several NGOs (see **Box**).

Before 1991, the formal part of the dairy sector in Zambia was controlled by the government's Dairy Produce Board (DPB). However, domestic milk production remained very low and a formal dairy industry never really took off. From 1991, government introduced structural adjustment policies including privatization, market deregulation, reductions in financial and technical government support to the sector, and trade liberalization. In the vacuum left, a number of foreign private dairy companies stepped

¹ In this report the word 'processor' will be used for actors who process (and package) raw milk into pasteurised or UHT liquid milk, for manufacturers who process raw milk into other dairy products, such as yoghurt, cheese, butter, milk powder etc., and for producer-distributors who use own raw milk to process (and package) milk and milk products or manufacture other dairy products.

in and reorganized the industry. The key factors behind the sector's low production and productivity include: weak extension services, poor husbandry skills, high cost of doing business, and weak policy and institutional frameworks governing the development of the dairy sector. As a consequence, Zambia is a net importer of dairy products. Milk production recently has increased to 786 Million litres in 2016 according to Dairy Association of Zambia (DAZ) statistics (Kanekwa, 2017).

The main dairy processors currently operate at 70-80% of their processing capacity. In order to meet domestic demand, processors opt to supplement local milk production with reconstituted milk. Processors are therefore keen to tap the so-called 'lost milk' from the traditional sector, but lack the data on locations and potential milk volumes needed to make informed investment decisions with regard to expanding the network of chilling, procuring and processing facilities (Mumba et. al., 2016).



In Zambia, suppliers to the formal market number approximately 3,000–4,000; next to dedicated smallholder and commercial dairy farmers, who are using pure and cross breed dairy cattle (ACF 2012), this number likely includes the cooperatives (some 73) who intermediate for a larger number of smallholder suppliers. There are about 300,000 traditional cattle-owning households whose cattle also produce milk (World Bank 2010). Zambia's cattle population rose to 3,500,000 by end of 2014 (MFL). Approximately 80% of the national cattle herd is in the hands of traditional farmers who are much less productive than commercial farmers (Neven et al 2006, World Bank, 2010). It is estimated that only 44 to 65 million litres out of a total 440 million litres pass through formal market channels (ACF 2012). Processors in Zambia pay incentives on hygienic milk quality basis (Food and Drug Act 2001, cit. Mumba).

The overall impact of privatization on the dairy sector has been the replacement of government support to producers in the form of subsidies and extension services by support from NGOs and public private sector alliances. The NGOs have helped the dairy sector by organizing farmers into cooperatives and farmer group associations, building milk collecting centres installed with milk cooling and testing facilities. The NGOs have been instrumental in introducing and implementing new technologies and application of good dairy management practices.

The government provides veterinary services, para-veterinarians and AI-technicians, to be hired for private service at a reasonable price; however, these are not always available. The government owns the National Artificial Insemination Service (NAIS) in Mazabuka.

2.1.1 DAZ

The Dairy Association of Zambia (DAZ) is a national membership-based commodity organization, representing the dairy industry country-wide, functioning under the ZNFU (see 2.1.2) (see **Box**). DAZ represents all categories of dairy actors - producers, processors and dairy related agribusiness. No separate dairy processors' association is functional. DAZ has a membership of over 5,000 active and registered individual producers united in 73 primary cooperatives. DAZ is involved in lobbying & advocacy for the dairy sector, facilitates linkages to inputs, credit and the market for its producing members, and provides extension support and training (Agriterria, 2015). Its predecessor ZDPA was established in 1964 by the government and dissolved in 1991.

The principal objective of DAZ is to promote and protect the interest of members in their capacity as dairy farmers, dairy processors, purveyors and others involved in the business of dairy industry; and to help develop the Zambian dairy industry to meet both domestic and export demand. Its mission is to promote and safeguard the interests of members as individual dairy farmers, corporations/companies


and other organizations involved in the business of dairy farming in order to achieve sustainable economic and social development.

Objectives include:

- 1) To promote and safeguard the interests of members
- 2) To promote quality standards and to foster the growth of the dairy industry in Zambia
- 3) To promote opportunities for the dissemination and exchange of knowledge and ideas pertaining to the production, processing and marketing of dairy products.

ZNFU-DAZ - Dairy Association of Zambia

- **DAZ under ZNFU** since 2010, formed from previous Dairy Processors Association + Dairy Producers Commodity Committee => **commodity board**
- Membership based association, 5600 members include
 - 9 processors
 - individual producers
 - 73 primary cooperatives
 - service providers
 - other industry actors
- Main activities: Promotion, information, training, lobby & advocacy


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The core functions include lobbying and advocacy, information dissemination and communication with members. Through these core functions, DAZ promotes and safeguards the members' interests and the development of the dairy industry (<http://bit.ly/2AeVXuy>).

2.1.2 ZNFU


Zambia National Farmers Union (ZNFU) is a national membership based organization, with countrywide coverage, representing the agriculture industry (see **Box**). Specifically ZNFU represents small and large scale farmers and agribusinesses. ZNFU is non-political and non-partisan. Further, ZNFU is made up of members and led by regularly elected leaders.

The members are currently categorized into:

- District Farmers' Association
- Commodity specialized associations, DAZ
- Corporate Farming businesses
- The Agribusiness chamber and
- Association members.

Zambia National Farmers Union (ZNFU)

<ul style="list-style-type: none"> ▪ District Farmers' Associations ▪ Specialized commodity associations ▪ Corporate farming businesses ▪ Agribusiness chamber Association members. 	<ul style="list-style-type: none"> ▪ national membership based organization ▪ represents small and large scale farmers ▪ Agribusinesses ▪ non-political and non-partisan
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ZNFU was founded in 1905. Since independence there has been a growth of small farmers' membership. ZNFU core functions include lobbying and advocacy, members' services provision and dissemination. ZNFU promotes and safeguards the members' interests and the development of the agricultural industry.

ZNFU also performs the following functions:

- Organizing members into associations to create an effective voice on concerns
- Represents members to government or other authorities
- Collects and distributes to members information on agriculture and agricultural marketing
- Facilitates and creates institutional linkages by subscribing to any association or body having objects or interests similar to or complimentary to those of the union.

2.1.3 ZABS

The Zambia Bureau of Standards (ZABS) is the Statutory National Standards Body for Zambia under the Ministry of Commerce, Trade and Industry, established under the Laws of Zambia for the preparation and promulgation of Zambian standards. Its strategic objective is to provide efficient and effective

standardization, quality assurance and metrology services to industry, consumers and regulators in order to contribute to the improvement of the quality, competitiveness and safety of products and services, and promote value addition and sustainable socio-economic development in Zambia.

The purposes for testing include:

- To ensure that the product quality complies with requirements of the relevant standard
- To ensure that the manufactured products adhere to good manufacturing practices
- Testing may be done as part of investigation on product complaints
- To ensure the product is safe for use by consumers or the general public.

Functions of the ZABS testing services are:

- To test products and assess their conformity to required standards
- To provide testing services to a wide range of clientele that include manufacturers, exporters, importers, regulatory bodies, producers of various products, retailers, academic institutions, the general public and consumers. Regarding the dairy sector ZABS tests food, water, beverages and agricultural products, milk and meat products, animal feeds, fats and oils and pesticides.

2.1.4 NGO support to MCC capacity

Several NGOs are active or have been active in reinforcing Milk Collection Centres (MCCs) for Zambia's small scale dairy farmers, including Heifer International and Land O' Lakes Dairy Development Programme (2002 to 2009). According to Sportel (interview 2017) MCCs very much operate according to availability of outside aid. Coordination between NGOs could be improved, as sometimes different NGOs offer the same services. SNV and Agriterra cooperate (interviews Kapotwe, 2017, Jansen 2017), where SNV provides technical training and Agriterra capacity building for MCC board members.

NGOs have no connection to commercial farmers, except in some occasions for learning, e.g. on pasture management. The SNV M-DIP project aims to provide small-scale dairy farmers in southern Zambia with agro-inputs, through public-private partnerships, to establish market-based smallholder dairy support services around cooperative MCCs in Southern provinces. A study by Sportel (2017a) among 10 MCCs showed that in addition to milk collection, MCCs provide concentrate feed, medicines, semen (AI services are provided by 90% of cooperatives), hormones, sprays and dips, although there was variation in products offered. MCCs made external strategic alliances for marketing of milk and farm supplies. Alliances are mainly for the marketing of milk, others are created due to offers for additional services that have been made to the MCCs.

2.2 Dairy sector governance in South Africa

Until 1997, the South African dairy industry was regulated by the Dairy Industry Act of 1961 and the Agricultural Marketing Act of 1968. As statutory bodies, the Milk Board and the Dairy Board were set up to implement regulations. In the 1980s and 1990s, the statutory boards were closed down in a process of deregulation and in 1997 the Agricultural Marketing Act was repealed. Since then the industry has been in an 'unbridled competition' (Newman, 2004). 1998 was the last year of statutory funding to the Milk and Dairy Boards. This funding was replaced by voluntary member fees. In 1997 SAMFED (South African Milk Federation) was established to represent all sectors of the industry and of the Food and Allied Workers Union (FAWU) to the government and its agencies. During the period when SAMFED was established and thereafter, the organised dairy industry has made serious efforts towards a strategy for the development of the dairy industry. Such efforts were made in consultation with the Department of Agriculture and the Department of Trade & Industry. Since, SAMFED has been dissolved.

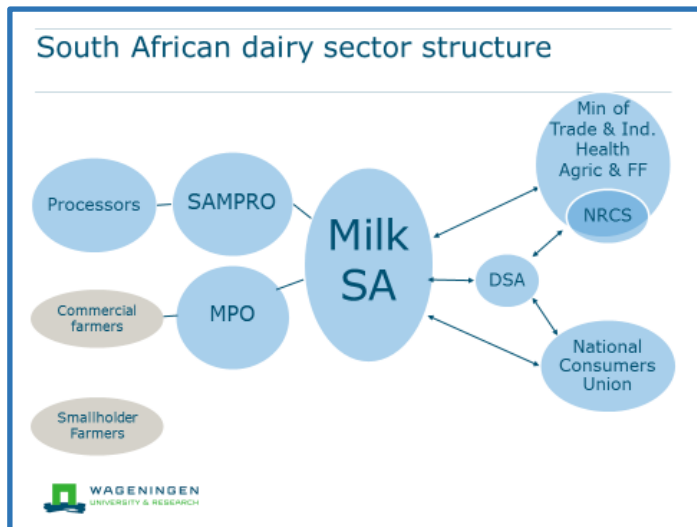
Currently the South African Milk Processors' Organization SAMPRO (an amalgamation of the South African Milk Organisation (SAMO) and the National Milk Distributors Association (NMDA)) and the Milk Producers Organization (MPO) are active (see **Box**). As organization of commercial farmers, MPO also does some training for smallholders, but in a shrinking sector has limited means to do so. While according to DAFF (2012) the number of smallholder dairy farmers is increasing rapidly, they do not appear in statistics, and neither does their production and informal milk marketing. SAMPRO represents the processors. MPO and SAMPRO together formed Milk South Africa to represent the sector towards

government and consumers. Dairy quality assurance is supervised by the Dairy Standards Agency, in interaction between sector, consumers and ministries.

This strategic thinking and work resulted in:

- the establishment of Milk SA in 2002 by the MPO, NMDA and SAMO to be the instrument through which common interests of the primary and secondary dairy sectors could be addressed
- the establishment of SAMPRO in 2003 by the NMDA and SAMO with the purpose to be an instrument for all members of the secondary dairy industry
- a strategic direction accepted by the MPO and SAMPRO that lead to the imposition of statutory measures which are administered by Milk SA.

The number of milk producers in South Africa has decreased by 58 % from 3,551 in January 2009 to 1,503 in June 2017. The number of producer-distributors decreased by 83 between 2008 and 2017. Milk buyers decreased by 23 over the same period. In 2016, 58 MT of products were imported. Total exports during 2016 were 50 MT. Self-sufficiency is 96 to 98% for raw milk and about 40% for butter and 0% demobilized (infant) milk (communication De Wet, 2018). Utilization of processing capacity is about 85%, but it differs from product to product, notably being lower for butter.



In 2015 3.44 mill t ECM was produced by 617,000 cows. 95% of milk produced is delivered to the formal chain.

2.2.1 Milk SA

Milk South Africa is a Non-Profit Company in terms of the Companies Act, established in 2002 by the primary and secondary industry sectors. Milk South Africa (Milk SA) is comprised of the Milk Producers' Organization (MPO) and the SA Milk Processors' Organization (SAMPRO) (see **Box**). Milk South Africa is the instrument through which the primary and secondary dairy industries deal with common challenges and is not intended to replace, duplicate, or undermine the actions of the MPO and SAMPRO.

Its mission is to promote the image and consumption of South African dairy products amongst consumers and the broader population and to develop the dairy industry through rendering of value-added services to industry participants, consumers and the broader South African population.

The strategic direction of Milk South Africa is to broaden the market for milk and dairy products, to improve the international competitiveness of the dairy industry and to empower previously disadvantaged individuals. This strategic direction is the result of a comprehensive process of study and consultation involving public actors as outlined above. Strategies are financed by the levies implemented as promulgated in terms by the Marketing of Agricultural Products Act, while some strategies are not financed from levy income.

Objectives

- Cooperation with stakeholders
- Dairy consumer education
- Empowerment
- Industry information
- Quality improvement
- Research and development
- SA trade dispensation.

2.2.2 MPO

The Milk Producers Organisation MPO is liaising with all levels of government and with the private sector. The MPO plays a role in ensuring stability in a volatile dairy market by monitoring and informing producers of global industry instability on a regular basis. Access to research and the development of new technologies by adopting a customer focused approach through The Dairy Mail is a part of our communication strategy. Trade conditions are addressed at all levels through regular interaction with government and other role players. The MPO has identified sustainability as a strategic imperative to ensure an economically viable industry for all in the short, medium and long term. The MPO organises and is involved in a variety of activities across the country aimed at stimulating member participation and imparting the latest information to our members. Each of the regions is represented by one or more local MPO directors and a regional coordinator, and each team decides on the best approach for their region (<http://www.mpo.co.za/>).

The main objectives of MPO are: taxation policy, representation, knowledge transfer, innovation and addressing environmental issues. These objectives are reached in cooperation with different departments or allied institutes: The MPO Training Institute, AgriInspec, AgriConnect, Agri Travel tours, Milk South Africa, SA Large Herds Conferences and the Dairy Standard Agency.

The MPO Training institute conducts training for Dairy Occupational Qualification. The dairy occupational curriculum consists of the following three levels, all of which are required for the full qualification, although partial qualifications are also recognised: Dairy Farmworker, Farm Supervisor and Farm Manager. The Milk SA "Guide to Dairy Farming in South Africa" is a workbook for the training of dairy farm workers. Training is divided into various modules that cover knowledge and practical components of different dairy disciplines. The manual is available from <https://milksa.co.za/content/milk-sa-guide-dairy-farming-2nd-edition>.

2.2.3 SAMPRO

The South African Milk Processors' Organization (SAMPRO) is a voluntary member organization for the secondary dairy industry in South Africa (see **Box**). It has regional chapters. Members are paying a levy for every litre of raw milk bought. So the bigger processors pay more and the smaller processors less, according to total volume bought. SAMPRO was established in 2003 to provide the secondary dairy industry with a unified instrument to deal with issues of common interest to the secondary dairy industry. SAMPRO is also getting funds from Milk SA to execute certain projects on behalf of Milk SA. Milk SA is getting its funding from statutory levies. SAMPRO Training is a division of SAMPRO, tasked with developing learning materials and rendering certain services with respect to skills development to processors of milk.

SAMPRO – SA Milk Processors Organization

- Organization established in 2003 to deal with issues of common interest for secondary dairy industry
- 32 members, financed by membership fee, no financial interest in any business
- Nominates board of directors of Milk SA with MPO
- Main activities: training, industry & market information quality improvement, R&D, lobbying & advocacy

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In April 2016, the dairy processing industry comprised 150 milk processors of dairy products and 115 producer-distributors (MilkSA, 2017). Competition amongst milk processors and manufacturers of dairy products is fierce, owing to the many players in the market (Milk SA, 2017). SAMPRO has 32 members, who buy approximately 65% of total milk production in South Africa (De Wet, 2017). One large processor, Clover, is not a member. **Table 2** presents capacities of members and the proportion of the total milk purchased by SAMPRO members.

Table 2 Categories of South African processors and their market share

No of SAMPRO Members	Million litres per month	% of total volume purchased
5	above 10	65
4	between 5 and 10	14
23	less than 5	21

2.2.4 Quality assurance agencies

DSA

The Dairy Standard Agency (DSA) is a registered non-profit company (NPC) in terms of the South African Companies Act 2008 (Act 71 of 2008). The primary objective of the DSA is the promotion of the compliance of milk and other dairy products to standards, according to regulations issued in terms of five different laws by the government; these relate to product composition, food safety, animal health, animal feed, milking parlours, transportation of milk, processing plants and storage.

DSA's existence is the direct result of the acceptance of a strategic approach to dairy product quality and safety by the organised dairy industry (Milk SA, SAMPRO and the MPO) and the National Consumers' Union. DSA promotes, as independent, expert and objective body, the application of high standards in the dairy industry. The approach is aimed at increasing the market for milk and other dairy products, the improvement of international competitiveness of the South African dairy industry and the empowerment of previously disadvantaged people.

Quality assurance - South Africa

[DSA - Dairy Standard Agency](#)

Set up by Milk SA and National Consumers Union to monitor and promote compliance to standards

- Monitoring of quality of milk and dairy products
- Communication with industry and stakeholders
- Support service to dairy industry and stakeholders

[NRCS - National Regulator of Commodity Specifications](#)



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DSA acknowledges the importance of product compliance with product composition, food safety and metrology standards as a prerequisite for the growth of the dairy industry.

DSA's activities include:

- Monitoring of milk and other dairy products
- Communication with industry and other stakeholders
- Support service to the dairy industry and other stakeholders (public and private institutions).

The DSA is well-recognised and respected by the respective government bodies, the organised primary and secondary dairy industry and other stakeholders, i.e. national consumer bodies and the retail sector at national level.

Dairy Quality Club

The Dairy Quality Club is a forum of suppliers that support the initiatives of the DSA. Purpose of the Dairy Quality Club is to assist and encourage stakeholders in the dairy industry to purchase from input suppliers that maintain product integrity and high standards.

SABS

The South African Bureau of Standards (SABS) is a statutory body that was established in 1945 (Standards Act No. 24 of 1945) as the national standardisation institution in South Africa and falls within the area of responsibility of the Department of Trade and Industry (DTI).

- Develop, promote and maintain South African National Standards (SANS)
- Promote quality in connection with commodities, products and services
- Render conformity assessment services and assist in matters connected therewith.

NCRS

The National Regulator for Compulsory Specifications (NRCS) was established on 1 September 2008, in accordance with the provisions of the National Regulator for Compulsory Specifications Act, (Act no.5 of 2008) (NRCS Act). It emerged as an independent organisation from the original Regulatory Division of the South African Bureau of Standards. The NRCS's mandate includes promoting public health and safety, environmental protection and ensuring fair trade. This mandate is achieved through the development and administration of technical regulations and compulsory specifications as well as through market surveillance to ensure compliance with the requirements of the compulsory specifications and technical regulations. NRCS stakeholders include the South African Government, industry and the citizens.

- The legislative framework under which the NRCS performs its tasks on behalf of the DTI are:
The national Regulator for Compulsory Specifications Act (act no. 5 of 2008)
- Legal Metrology Act (Act no. 9 of 2014)
- National Building Regulations and Building Standards Act (Act no. 103 of 1977)

No mutual references or formal relations are found on the websites of SABS and NCRS, nor on the DSA website. MPO (2013) however reports that the DSA maintains regular contact about inspections with the NCRS senior manager Legal Metrology. Quarterly reports regarding metrology infringements are forwarded to the NRCS by DSA as per standard agreement. DSA also participates in the activities of the NRCS as member of the Dairy forum. DSA serves on three SABS Technical Committees: Dairy Standards, Legal Metrology and Hygiene Practises in the food industry. DSA also serves as a member of the SABS Food Sector Advisory Forum. All relevant information regarding current, amended and new standards are communicated to the dairy industry.

2.3 Dairy sector governance in The Netherlands

2.3.1 A quick history of dairy sector governance

Central and provincial authorities at a distance

The Netherlands have been applying quality standards to dairy products since 1723. In that year, the "Edict Upon the Falsification of Fresh Milk and the Cheese Made Therefrom" was proclaimed. This was to be the forerunner of the Government Seal of Quality for Cheese, introduced in 1913.

Around 1900, provincial agricultural organizations started advising farmers on hygiene and as a consequence on housing of dairy cows. This approach was quality-driven by the private and cooperative processors. Milk quality was the common interest.

During the dairy crisis in 1932 the government took control to bring parties together. In 1932 a "crisis dairy law" was imposed, through which milk prices were established, with different rules concerning hygiene on the farm and a number of measures a farmer should comply to. As this was not very successful, in 1938 farmers established the Cooperative Milk Council (CMC) and the private processors established the Algemeene Vereeniging voor Melkvoorziening (General Association for Milk Supply, AVM). Both organizations

had a corporate structure and their power was based on the crisis-dairy-law. Trade in milk was only allowed for members of the AMV and only from producers who were member of CMC. CMC continued the quality tests established in 1933, rules about TBC control and promotion of production of winter-

Historical development Dutch dairy sector

- Central and provincial authorities at distance
 - Farmers organisations
 - Producer organisations
 - Consensus on quality
- Public role
 - Education-Extension-Research system – till 90's
 - Subsidies & policies (national & EU)
- Agricultural sector board (private, levies) – till 1996
 - Influence policies & regulations
 - Direction of EER (public part)

milk through a bonus system. The competing actors AVM and CMC found each other after heavy discussions and made agreements on an annual basis. Hygiene was their common interest.

Dairy farms are only one part of a larger dairy sector and have traditionally worked closely with other links in the chain. Many dairy farms have organized themselves into cooperatives, through which they sell milk to the milk processing companies owned by the same cooperatives. This means supply security and market leverage, and is an investment in the future generations of dairy farmers. It has given the sector its strong international position (NZO, 2017).

The ongoing collaboration between government, research & education institutes and the dairy industry makes sure that the products in the Dutch dairy chain are safe and of high quality. Research institutes like Wageningen University & Research and NIZO food research provide the scientific basis for food safety, and dairy companies ensure that their quality assurance system is continuously improved.

Public role

At the end of the 19th century it appeared that consumption of milk could transmit various diseases, such as typhoid and TBC, often as a result of poor hygiene on-farm and during trading. To prevent further spreading of these diseases, milk testing became compulsory in the whole country by 1925. After the second World War the Dutch dairy sector developed with support from EU, national and provincial policies. Key elements included the "OVO Triangle" and aligning subsidies or tax arrangements. The **OVO triangle** was a well-organized knowledge system with intentional interaction between Onderzoek, Voorlichting & Onderwijs (Research, Extension & Education/Training). From the 1980's subsidies to the OVO system were reduced and many public organizations were either privatized or their tasks were taken over by private organizations, often financed through the ministry of Economic Affairs. Currently such activities are conducted through Public-Private Partnerships, in which companies and knowledge institutes cooperate in innovative research projects.

Agricultural sector board (private, levy-based) and EU

Next to the OVO Triangle, a central role was played by the 'Productschap voor Zuivel' (Dairy Commodity Board). This was financed through levies. It was a platform for farmers' organizations, dairy processors and trade unions to channel sector interests to the government and stimulate practical developments through a research agenda. Such Commodity Boards were corporate organizations of companies that dealt with the same commodity in sequential process steps; in other words, companies in the same supply chain. The Board was authorized to levy taxes and impose regulations, and at the same time it acted as advocacy body for the companies in the sector and as an advisory body for the Government. The Dairy Commodity Board was the platform of negotiation between government, business, and trade unions. Trade unions have left this platform.

In 2012 government decided to eliminate the commodity boards altogether by 2015 and to do away with the levies. Some public tasks were handed over to the Rijksdienst voor Ondernemend Nederland (RVO, Public Agency for (support to) Dutch Entrepreneurs). Negotiations now take place between government and NZO only. Other tasks of the Dairy Commodity Board were taken over by ZuivelNL. For an explanation on the roles and functions of NZO and ZuivelNL see below.

The Dutch milk production and dairy industry has to comply with EU Food Law. This follows legislative developments from EU food authorities, including the European Food Safety Authority and the European Commission. Milk quality is determined from samples of milk collected at the farm.

2.3.2 ZuivelNL

For the government and third parties, ZuivelNL (DairyNL) is the organization for the Dutch dairy supply chain that forms the central point of contact of the dairy industry. ZuivelNL was established on 7 January 2014 by the Dutch primary sector (farmers) and the dairy industry (processors). The mission of the organization is to strengthen the Dutch dairy chain in a way that respects the environment and society. ZuivelNL is a membership organization, open to dairy farmer organizations and dairy industry organizations. ZuivelNL has the following members:

- Primary sector: Dutch Federation of Agriculture and Horticulture (LTO) and Dutch Dairy Farmers Union (NMV)
- Industry: Dutch Dairy Association (NZO).

ZuivelNL has been approved by the Dutch government as an Inter Branch Organization, in accordance with European law, in order that agreements in areas of substantial public interest can be declared universally binding. ZuivelNL is financed by levies on milk contributed by the sector (industry and farmers) and by subsidies from the government (ZuivelNL, 2017).



ZuivelNL is active in areas in which collaboration between 'links' in the dairy chain brings added value to the dairy sector. The main focus of its activities lies upon a number of thematic groups, which serve as a platform for the organization's members and partner organizations: on food safety, animal health, sustainability, research & innovation, labour issues, and export. ZuivelNL is active in these fields through funding and/or through direct deployment of staff.

In addition, ZuivelNL is providing services in the area of market information and general education regarding the dairy sector. The market information activities of ZuivelNL also include managing the secretariat of the national commission that determines, on a weekly basis, the Official Dutch Dairy Quotations.

2.3.3 Dairy producer organizations

LTO Nederland

The Land & Tuinbouw Organisatie (LTO Nederland, Agriculture & Horticulture Organization) is an association of three regional organizations - LTO Noord, ZLTO and LLTB. It represents the interests of almost 50,000 agricultural entrepreneurs (farmers) to enforce their economic and social position. LTO Nederland is the largest organization of dairy farmers, who together produce 69% of Dutch milk. LTO supports knowledge dissemination through entrepreneur networks, in collaboration with knowledge institutes. It does so to promote collaboration, innovation and communication between entrepreneurs.

Together with chain partners and societal organizations, LTO enforces entrepreneurship and enforces their market position. In dialogue with national, provincial and local governments, it aims to enable further development of farms. LTO develops its own policy documents.

NMV

The Nederlandse Melkveehouders Vakbond (NMV, Dutch Dairy Farmers Union) is an organization to advocate the interest for and by dairy farmers with a principal focus on the family income of the dairy farmers. Its activities are:

- lobbying policy makers on the interests of its members
- campaigning to bring its members concerns under public attention
- informing its members about important issues like policy development, rules & regulations, and opinions
- providing advice to its members.

NMV formulates critical questions about issues and developments from the government, industry, and society the members are facing. NMV collects new information and tries to correct erroneous laws and regulations.

BBZ

The Bond van Boerderij Zuivelbereiders (BBZ, League of on-farm dairy processors) is an association of circa 230 farmers who process milk from their own farms into value added products (primarily cheese).

2.3.4 NZO

The Nederlandse Zuivel Organisatie (NZO, Dutch Dairy Association) is a private association of Dutch dairy processors, representing the interests of thirteen dairy processors (see **Box**). Combined, these companies process 98% of the milk in the Netherlands into a wide range of dairy products to ingredients for the broader food industry and the pharmaceutical sector. NZO is a merger of the cooperative processors (FNZ) and the private processors (VZZM). All processors are a member, but one member processes 75% of the milk.

The NZO aims to build its members' capacities to produce and market their products. To reach this goal, NZO participates in public dialogue.

NZO plays an important role in raising societal awareness by publishing layman brochures with key figures on the dairy sector 'Dutch Dairy at a glance' (**Annex 5**), and brochures about housing, nutrition, relevant farm practices, and monitoring of quality along the chain. The NZO actively promotes sustainability, quality of production on farms and in the sector, knowledge about human nutrition aspects, and information on the national and international market. For Dutch dairy companies, food waste is an important topic. The sector is actively working to reduce dairy product waste.

2.3.5 Quality assurance agencies

COKZ and RvA

The inspections of the quality assurance systems applied in dairy factories and of the end products themselves are carried out by the Netherlands Controlling Authority for Milk and Milk Products (COKZ). The impartiality and quality of services are assured through the accreditation and regular inspections by the Dutch Accreditation Council (RvA). Each member state of the European Union has a national accreditation body. In 2010 the Dutch government appointed the RvA as the national accreditation body based on European Regulation 765/2008. Since then the RvA has become an independent government agency that answers to the Minister for Economic Affairs.

QLIP

Qlip is the main laboratory that analyses milk for payment and health criteria. The impartiality and quality of this private laboratory is assured through the accreditation and regular inspections by the Dutch Accreditation Council (RvA).

The scope of activities encompasses the entire value chain.

The Qlip laboratory is commissioned by the recipients of farm fresh milk to perform payment criteria analyses on 'chilling tank milk' or herd bulk milk. Samples of this on-farm chilled milk are analysed based on composition (e.g. fat-, protein-, lactose- and ureum concentrations) and quality (e.g. total cell count, total plate count, butyric acid and cleanliness). Depending on the results, the recipients of farm fresh milk will issue deductions or bonuses to total payment rewarded to the supplier. General rules for the payment of farm fresh milk are included in the 'Regelgeving Uitbetaling Boerderijmelk' (Regulations on payment of farm milk). Annually Qlip's routine laboratory analyses over 2.3 million herd bulk milk samples for payment purposes.

Qlip also performs hygiene checks on the milk transported from dairy farms to the processing plants. Each year more than 13,000 reviews, audits, assessments and certifications of production processes are carried out on dairy farms, RMOs (mobile milk reception vehicles) and manufacturing plants.

Netherlands - Milk quality assurance now

- RvA - Dutch Accreditation Agency registers all dairy companies (including 250 home processors)
- COKZ - Central agency control dairy sector (exports)
- NVWA - Dutch food control agency (domestic sales)
- QLIP - Independent private laboratory:
 - Milk analyses of raw milk and dairy products - composition & hygiene
 - ISO quality assessment of farms and companies
- Farm sampling of raw milk - regularly by collector (driver) and additionally from individual cows
- Analysis frequency varies per parameter from once every 3 days to monthly

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Moreover, Qlip analyses more than 200,000 milk samples from individual cows on a weekly basis. Dairy farmers and breeding organizations base their breeding policies on 3-weekly milk data from individual animals.

2.3.6 Education, extension, and R&D

Education - The Dutch education system is public and organized in such a way that on most disciplines, like agriculture, students can be educated at all levels. From secondary, diploma, college, university (vocational to academic) education training and curricula are designed according to potential of the students. This also provided opportunities for upgrading.

Extension & training generally is private, provided by commercial training institutes, supplying companies and consultancies.

R&D is privatized and conducted by contract research organisations, like NIZO and WUR, with processors like Friesland Campina or feed companies having their own R&D facilities, and often farmers' organisations. The Government still has an important role by providing research and development grants to the universities and public-private partnerships.


R&D agencies include:

Netherlands – Education, Extension, R&D now

Education - Public - Secondary, diploma, college, university
Extension & training - Private

Research – Public & private:

- NIZO - private independent R&D company
- Wageningen University & Research; major institute; entire dairy sector; different institutes and chair groups.
Relevant public institutes (with public-private funding):
 - Livestock Research (farming)
 - Food & Biobased Research (product dev., chain coordination)
 - RIKILT (food quality and safety)
- Processors like FrieslandCampina have own R&D facilities

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NIZO

NIZO is a private and independent R&D company, which focus is on the development and application of innovations for the global food industry and related markets. NIZO was founded in 1948 by the Dutch dairy industry as a collaborative initiative for fundamental research as well as process - and product development. NIZO contributed to the development of several famous Dutch cheeses.

At the start of the 21st century, changes in the dairy industry had become permanent. Guaranteed funding from the dairy industry gradually disappeared and was replaced by income from contract research. NIZO transformed from a foundation into a company. In 2009, NIZO management bought the company from the dairy industries. All income is generated by R&D and production contracts with industry actors worldwide: 60% of turnover is from outside the Netherlands.

As a result of mergers, NIZO shifted its focus towards fundamental dairy research, and became 'the' leading dairy research organization in the world. As the number of dairy companies continued to decline, NIZO was asked to shift from precompetitive to more confidential research for the individual dairy companies and also beyond dairy.

Wageningen University & Research

Wageningen University & Research (WUR) is a major education and research organization covering the entire dairy sector through different institutes and academic chair groups. The Agro-Technology & Food Sciences Group and the Animal Sciences Group of Wageningen UR provide scientific education and contract research for policy support as well as private industry. They focus on integrated and innovative practical applications for the primary sector regarding animal health and welfare, farm economics and management, nutrition, genetics and environment. The Dairy Campus in Leeuwarden is a central research, training and innovation centre where public and private organizations meet.

The European Commission requires its members states to ensure harmonization in analysis of food safety parameters across member states. This is ensured by the Reference Laboratory structure, with National Reference Laboratories, that serve as control labs for the national routine laboratories. Dairy processors' association functioning and services. RIKILT is the Dutch National Reference Laboratory and performs quality checks, and trains, if necessary, staff from Qlip, the most important dairy laboratory. In addition, RIKILT conducts analyses on milk composition, used for milk payment and farm monitoring.

3 Dairy processors' associations processors'-structure, functioning and services

3.1 Structure and functioning

The dairy processors' organizations in The Netherlands and South Africa are membership organizations, although the legal form may vary according to national laws. In Zambia no separate processors' association is functional, as all dairy sector actors are represented by the DAZ – apparently the sector is not mature enough to carry a separate processors' association. In all three countries, the majority of processors are members. As membership is on voluntary basis, not all are member. Producer-distributors (farm-based processing) generally are not part of processors' associations.


The associations generally have a board, a secretariat consisting of up to 20 staff, and a number of technical committees. The technical committees are made up of members and outside experts; they prepare proposals to address technical issues, and interact with policy makers and other stakeholders as appropriate.

Financing of dairy processors' association activities generally is through membership fees, sometimes the according to processed volumes resemble levies. Both in South Africa and in the Netherlands public funding is obtained for specific projects (e.g. consumer education or farmer training).

Dairy processors organizations - Services

Services	ZNFU-DAZ	SAMPRO	NZO
Dairy consumer education	X	X	X
Promotion of dairy	X	X	X
Capacity building, coops / companies	X	X	X
Industry & market information	X	X	X
Quality assurance		X	X
R&D		X	X
Lobbying & advocacy (trade conditions, local and import/export)	X	X	X
Farmer training, extension, input & service linkages	X		

Structures of the 3 associations are very similar, with AGM, Board, Technical Committees and Secretariat; associations' activities are paid from membership fees.

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3.2 Services

3.2.1 Quality assurance

In the Netherlands and South Africa quality assurance system by accredited private companies with direct or indirect relation to consumer organizations buys credibility towards chain actors, authorities, consumers, export partners. In Zambia this is carried out by processors individually.

3.2.2 Policy development

Collaboration between producers & processors creates influence. Zuivel NL and Milk SA offer formal structures for lobby and policy influencing with the government and relevant stakeholders. NZO and SAMPRO decide on a case-by-case basis whether they will use these apex organizations or interact with stakeholders directly by themselves. In Zambia the DAZ is represented by the ZNFU.

3.2.3 Consumer awareness raising, consumer education

All three countries identify creation of consumer awareness on the benefits and needs of consumption of processes dairy products as an important task, and have active programmes to do this.

3.2.4 Training, education and extension

The Netherlands (NZO) and South Africa (SAMRO) have a training structure for training of processing staff. Farmers training and extension is organized through dedicated public, private or farmers' organizations. In Zambia, training and extension is still a government task, but as the government has insufficient means to fully execute this task, parts of training and extension are taken over by NGOs.

3.2.5 Innovation and research

NZO and SAMPRO are both active in directing and funding research through various institutes and funding schemes. In the Netherlands the biggest processor has a large research facility on the Wageningen UR Campus, which allows for easy contact with both Wageningen UR and NIZO in Ede.

4 Recommendations for KDPA

4.1 Lessons learned and implications for KDPA

- 1. Structure follows function follows context** - Each country is unique and has its own history, opportunities and challenges. This means that not one best structure exists that would be good for all dairy processors' associations. The best structure for the Kenyan context depends on the functions that the KDPA as organization has to perform in a certain point in time, and what functions actually are performed by other actors. The structure of KDPA will have to be built around the identified priorities of the KDPA.
- 2. Collaboration culture** - Each country's culture and attitudes towards collaboration are different; in some countries the culture is more collaborative, in others more competitive; in some countries the government is more leading, in others the private sector. KDPA may need a culture that promotes collaboration, but that also allows competition where possible. When producers and processors collaborate they will create more clout in negotiations with public organizations or with retailers.

Implications for KDPA - Salient points

 - Structure follows function follows context
 - Sector cultures: Collaboration vs. competition
Private vs. public
 - "Dairy is a strong sector that can self-organize more easily than other sectors"*
 - Producers & processors collaboration creates influence
 - Quality: control by accredited private company buys credibility towards chain actors, authorities, consumers, export partners
 - Farm management training
 - sector (SA-MPO)
 - govt+sector (NL)
 - Dairy company staff training - processor associations

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- 3. Private versus public** - The Dutch and South African histories show an ongoing evaluation and shifting of the roles of public agencies and what private sector parties can do themselves. While government usually has to perform a few obviously public roles, and sometimes steps in to 'put matters right', the industry organizations and farmer organizations usually seem best off when they keep matters in their own hands. For example, processors can organize quality testing, the government agency can just monitor whether the processors test properly.
- 4. Together we are strong** - Producer and processors' organizations in the dairy sector have a large common interest in milk quality control, consumer education and training, communication and understanding between all players, advocacy towards policy makers and information of the public. These are well organized and eloquent in South Africa and the Netherlands. In South Africa especially the small scale production sector is less prominent and not all processors are involved in the processors' association. As informal markets pose risks and challenges to the entire dairy sector, a broad representation of all sector actors into a combined platform of producers and processors will be instrumental in working towards the desired milk quality across the entire sector.
- 5. Dairy sector has the advantage** - Compared to other agricultural and livestock subsectors, the dairy sector usually is more resourceful, due to its daily flow of produce with high added value and year round cash-flow. While it is good to learn from other subsectors, dairy can be expected to 'set the tone' for other subsectors: "Dairy is a strong sector that can self-organize more easily than other sectors".
- 6. Who trains the farmers?** - Farm management training and extension can be organized by the sector itself, or in collaboration with the government and/or existing technical training institutions. The assumption is that the government will be eager to perform certain specific roles, hence that public institutes may be well placed to perform particular training activities, disease control activities, etc. Nevertheless the sector will benefit from a proactive role, jointly taking up precompetitive interests - where the government does not provide in addressing key issues for sector competitiveness, it may be necessary for the sector to step in. One way could be to raise funding through levies and to form strategic alliance with development partners and

donors to assist in putting structures in place for e.g. practical training, milk quality control, data collection and statistics.

7. **Who trains dairy personnel?** - Dairy company staff training is obviously a task that a processors' association could organize itself, or outsource to a specific institution.
8. **Who controls milk quality?** - It may be convenient for each company to test its own milk intakes, it is obvious that public /consumer trust in milk safety will increase through more advanced schemes. A private laboratory that is recognized by all partners and that is accredited by the government seems a good solution. Alternatives do exist though, such as ring-testing, in which each processor's laboratory regularly analysis a centrally distributed sample, to calibrate its laboratory operations. Analysis by accredited private laboratories buys credibility towards chain actors, authorities, consumers, and export partners alike.

4.2 Possible priority themes

For KDPA some evident priority themes include:

- To build strong mutual relationships and confidence within the organization, with space for competition on price and quality. This confidence will enable constructive negotiation structure with retailers on supply conditions, standards and prices.
- To develop a commonly accepted minimum standard and uniform testing procedure for milk quality to promote acceptance from and payment to farmers and to ensure the quality of the end product. This can enhance the relation between suppliers and processors. It may increase mutual understanding between different players in the dairy chain, and enable good sector agreements and policies.
- To identify feasible mechanisms to strengthen supplier relationships.
- Training, extension and education are matters of common interest that contribute to good quality milk and reduced cost of production. The KDPA can pick this up in good cooperation with government services, technical training institutions, development partners and donors.
- To lobby the government for conducive fiscal policies.
- To take the lead in developing a road map, policies and mechanisms to curb and eventually phase out the raw milk market, in collaboration with other stakeholders.

Implications for KDPA - Possible priorities

1. Negotiations with retail on supply conditions
2. Processor agreement on quality assurance
3. Supplier relationship
 - individual processors
 - collective: sector agreements
4. Training/Educ, R&D
 - quality assurance
 - cost of production - who/how

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South Africa

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Zambia

Agriterra, <https://www.agriterra.nl/strengthening-dairy-value-chain-zambia-25514/>
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Dairy Association of Zambia: <https://agriprofocus.com/organization/-dairy-association-of-zambia-daz-Kanekwa-Kachinga-2017-Consultative-meeting-held-in-Lusaka-on-April-26,-2017->
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Terms of reference DAZ/SNV study, 2013 [https://images.agrirofocus.nl/.../Terms of reference. Dairy Economic Analysis](https://images.agrirofocus.nl/.../Terms-of-reference-Dairy-Economic-Analysis)
Zambia Bureau of Standards website: <http://www.zabs.org.zm/>
Zambia National Farmers Union ZNFU http://www.znfu.org.zm/about_us
Zambian Bureau of Standards <http://www.mcti.gov.zm/index.php/about-mcti/statutory-bodies/zambia-bureau-of-standards>
Zambian Ministry of Commerce, Trade and Industry, <http://www.mcti.gov.zm/index.php/about-mcti/about-mcti>

Annex 1 – Terms of Reference

Terms of Reference for support international consultant to KPDA strategic planning Specification of activities under Memorandum of Agreement between SNV Kenya and Wageningen UR on the KMDP project KE-16-039-MOU-WAG-6001951 of December 2016.

Introduction

Dairy is the single largest agricultural sub-sector in Kenya, and the development goals as outlined in Vision 2030 have identified agriculture in general and dairy in specific as key drivers for economic growth. The poor state of the dairy industry after the liberalization of 1992 was of great concern to the milk processors. This led to a meeting of private milk processors in July 1995 which led to the birth of the KDPA. The association was registered as a limited guarantee company in 1996. In March 2010, through a forum organized by the Kenya Dairy Board (KDB), the dairy processors decided to come together and revive the Kenya Dairy Processors' Association (KDPA). This revival was driven by the milk glut experienced in early 2010 which severely constrained the processing and marketing capacities of the Kenyan milk processors. KDB has been the secretariat to KDPA since its revival in 2010. KDPA currently has 15 members.

The principal objective of KDPA is to act as a forum for the development and promotion of an efficient, organized and professionally managed dairy industry in Kenya. Specific objectives are:

Create a forum for dialogue and strengthen linkages between milk producers, processors and government so as to promote reforms beneficial to the industry:

1. Lobby the government and other regulatory authorities on taxation policy, quality standards, import tariffs and other concessions to ensure transparency and equity among players in the industry.
2. To enter into strategic partnerships with other organizations for mutual benefit and for the advancement of the Kenyan dairy industry.
3. Promote consumption of processed milk
4. Maximize opportunities to communicate positive messages about the nutritional value of milk
5. Secure adequate supply of raw milk to members
6. To advise and assist members on the establishment, organization and management of dairy farms, milk processing plants, milk marketing, transportation and selling of milk products in Kenya and outside.

Objective and Scope of Work

The objective of this consultancy is to facilitate the development of a KDPA Strategic Plan, that will guide the Association in (re-)defining its core functions and activities as a forum to promote the Kenyan dairy industry nationally and internationally, and the establishment of a strong and sustainable Secretariat for implementation of the same.

The Secretariat shall enable milk processors to effectively articulate the issues affecting the Kenya dairy industry, especially on milk production, processing and marketing. Hence the Strategic Plan shall include the structure and staffing of the Secretariat, and the financial or business model both for financing of the KDPA Secretariat and KDPA activities.

The final Strategic Plan shall also include a (proposed) implementation matrix for the setting up and staffing of the Secretariat and the implementation of KDPA activities.

In order to achieve the objectives and scope of work, the consultant(s) will be required to work in close collaboration with KDPA's Technical Committee that was formed to initiate, guide and supervise this assignment.

A local consultant, covered by a separate agreement, is responsible for the local research, desk study/policy review, interviews, organisation and facilitation of workshops, report writing and the end report.

Tasks for the international consultant:

I. International benchmarking with similar organisations

- Select 3 countries for benchmarking with Kenya (e.g. Zambia, South-Africa and Netherlands)
- Review literature and interview key informants/relevant organisations from these countries on structure, functioning and context of processors' associations in selected countries
- Prepare presentation (including power point) for KDPA meeting/workshop
- Prepare report on benchmarking.

II. Provide input in the report of the local consultant:

- Align with local consultant on inclusion of the Benchmark Report in the Strategic Plan Report
- Comment/give inputs on Draft Strategic Plan before the second workshop
- Comment/give inputs on Final Strategic Plan before it goes to the KDPA Chairman.

Annex 2 – PowerPoint presentation Nakuru, November 29-30, 2017

Benchmarking Dairy Processor Associations

What can experiences elsewhere tell us in Kenya?

KDPA workshop, Wim Houwers and Jan van der Lee



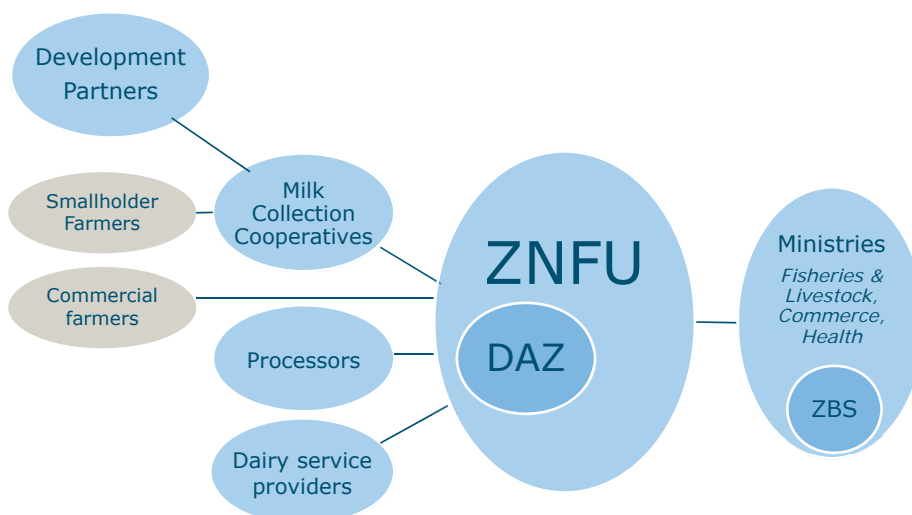
Outline

- Three dairy sectors: Zambia, South Africa and The Netherlands
- Processor associations
- More on key functions:
 - Quality assurance
 - Education, Extension & training, R&D
- Implications for KDPA

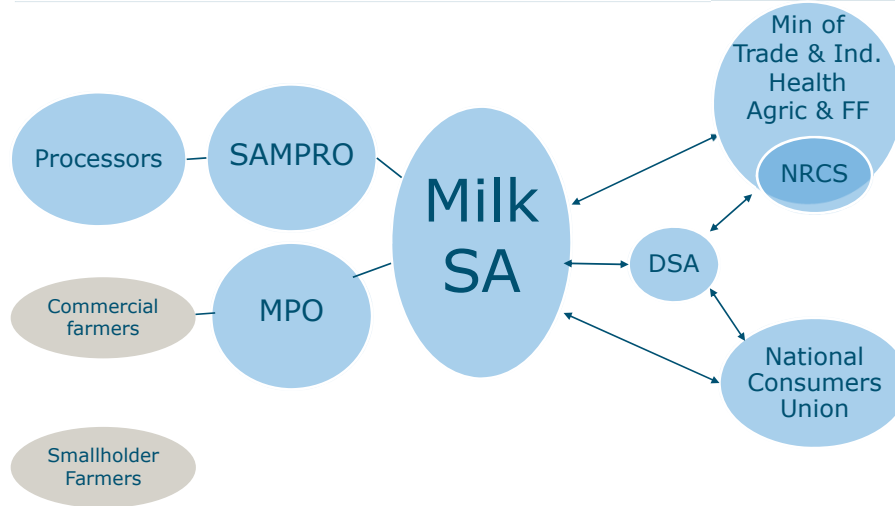
Three dairy sectors at a glance

	Zambia	South Africa	Netherlands
Number of processors			
- Medium & large	9	9	13
- Small	many	250	250
Incl: Producer-distributors	n.a.	115	200
Installed capacity	0,5M	10M	40M
Capacity utilization	36%	85%	n.a.
Collected/produced milk	40% * 0,44 MT	95% *3.2 MT	99+% * 14.3 MT
Suppliers	3-4,000	1,550	17,500
Non-/indirect suppliers	300,000	n.a.	-
Self-sufficiency dairy market		97%	300%
Quality agencies	ZBS	NRCS, DSA	NVWA, COKZ
Private milk testing	processors	processors	Proc. + central - QLIP company

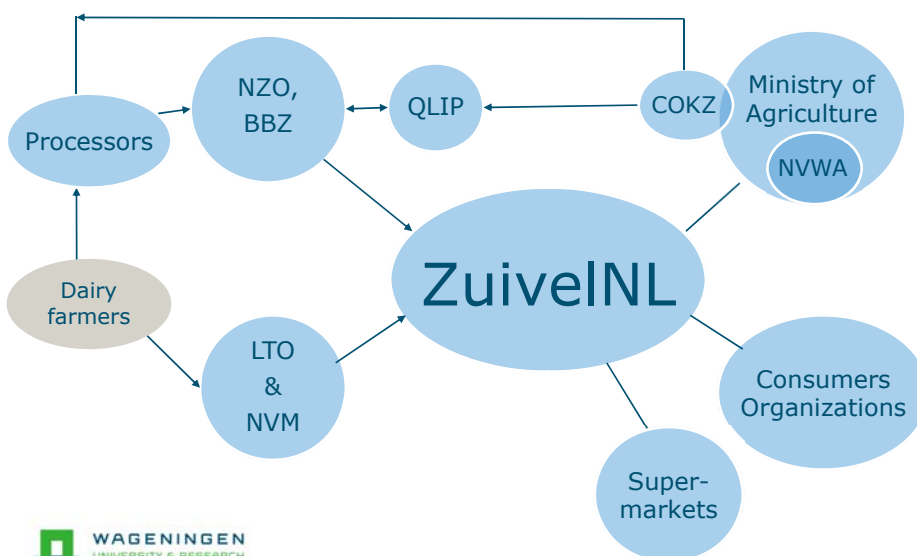
Zambian dairy sector structure



South African dairy sector structure



The Netherlands dairy sector structure



Summary

Zambia: farmers, cooperatives, processors and service providers form Dairy Association of Zambia under Zambian National Farmers Union

South Africa: processors organisation SAMPRO and (commercial) farmers organization MPO form Milk SA to represent sector; smallholders?

Netherlands: processor association and farmer organizations form dairy association Zuivel NL; most farmers double representation: farmer organisations and cooperative milk processors; independent private testing

ZNFU-DAZ - Dairy Association of Zambia

- **DAZ under ZNFU** since 2010, formed from previous Dairy Processors Association + Dairy Producers Commodity Committee => **commodity board**
- Membership based association, 5600 members include
 - 9 processors
 - individual producers
 - 73 primary cooperatives
 - service providers
 - other industry actors
- Main activities: Promotion, information, training, lobby & advocacy

SAMPRO – SA Milk Processors Organization

- Organization established in 2003 to deal with issues of common interest for secondary dairy industry
- 32 members, financed by membership fee, no financial interest in any business
- Nominates board of directors of Milk SA with MPO
- Main activities: training, industry & market information quality improvement, R&D, lobbying & advocacy

NZO - The Dutch Dairy Association

- NZO is a private association of the Dutch dairy industry, representing the interests of 13 dairy companies
- NZO is a merge of the cooperative processors (FNZ) and the private processors (VZZM)
- one member processes 90% of the milk
- Main activities: Consumer education, capacity building, quality assurance and improvement, environmental sustainability improvements

BBZ – association of +/- 230 farm-based cheese processors

Dairy processors organizations - Services

Services	ZNFU-DAZ	SAMPRO	NZO
Dairy consumer education	X	X	X
Promotion of dairy	X	X	X
Capacity building, coops / companies	X	X	X
Industry & market information	X	X	X
Quality assurance		X	X
R&D		X	X
Lobbying & advocacy (trade conditions, local and import/export)	X	X	X
Farmer training, extension, input & service linkages	X		

Structures of the 3 associations are very similar, with AGM, Board, Technical Committees and Secretariat; associations' activities are paid from membership fees.

Quality assurance - South Africa

DSA - Dairy Standard Agency

Set up by Milk SA and National Consumers Union to monitor and promote compliance to standards

- Monitoring of quality of milk and dairy products
- Communication with industry and stakeholders
- Support service to dairy industry and stakeholders

NRCS - National Regulator of Commodity Specifications

Historical development Dutch dairy sector

- Central and provincial authorities at distance
 - Farmers organisations
 - Producer organisations
 - Consensus on quality
- Public role
 - Education-Extension-Research system – till 90's
 - Subsidies & policies (national & EU)
- Agricultural sector board (private, levies) – till 1996
 - Influence policies & regulations
 - Direction of EER (public part)

Netherlands - Milk quality assurance now

- RvA - Dutch Accreditation Agency registers all dairy companies (including 250 home processors)
- COKZ – Central agency control dairy sector (exports)
- NVWA – Dutch food control agency (domestic sales)
- QLIP – Independent private laboratory:
 - Milk analyses of raw milk and dairy products – composition & hygiene
 - ISO quality assessment of farms and companies
- Farm sampling of raw milk – regularly by collector (driver) and additionally from individual cows
- Analysis frequency varies per parameter from once every 3 days to monthly

Netherlands – Education, Extension, R&D now

Education - Public - Secondary, diploma, college, university
 Extension & training - Private

Research – Public & private:

- NIZO - private independent R&D company
- Wageningen University & Research; major institute; entire dairy sector; different institutes and chair groups.
 Relevant public institutes (with public-private funding):
 - Livestock Research (farming)
 - Food & Biobased Research (product dev., chain coordination)
 - RIKILT (food quality and safety)
- Processors like FrieslandCampina have own R&D facilities

Implications for KDPA - Salient points

- Structure follows function follows context
- Sector cultures: Collaboration vs. competition
 Private vs. public
- “Dairy is a strong sector that can self-organize more easily than other sectors”*
- Producers & processors collaboration creates influence
- Quality: control by accredited private company buys credibility towards chain actors, authorities, consumers, export partners
- Farm management training – sector (SA-MPO)
 – govt+sector (NL)
- Dairy company staff training – processor associations

Implications for KDPA - Possible priorities

1. Negotiations with retail on supply conditions
2. Processor agreement on quality assurance
3. Supplier relationship
 - individual processors
 - collective: sector agreements
4. Training/Educ, R&D
 - quality assurance
 - cost of production – who/how

Thank you

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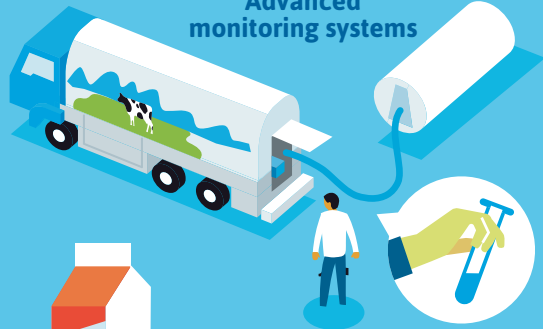
Annex 3 – List of consulted persons

Name	Organization	Country	Interaction	Date
Marnix Sanderse	Agriterra Zambia	Zambia	Interview	Oct. 10, 2017
Brian Kapotwe	SNV Zambia	Zambia	Skype	Oct. 31, 2017
Jeremiah Kasalo	DAZ	Zambia	Questionnaire	Still waiting
Hielke Sportel	Private	Zambia	Interview	Oct. 16, 2017
Patrick Kawambwa	Ministry of Fisheries and Livestock	Zambia	Questionnaire	Oct. 29, 2017
Piet Stevens	Farmtool Ltd	Zambia	E-mail	Nov. 24, 2017
Alwyn Kraamwinkel	Sampro	South Africa	Interview	Oct. 23, 2017
De Wet Jonker	Sampro	South Africa	Interview, E-mail	Nov. 28, 2017
Jos Lankveld	NZO	Netherlands	Interview	

Annex 4 – Dutch Dairy at a glance

NUTRITION & QUALITY

Advanced monitoring systems



Ideal soil and climate conditions, lots of expertise



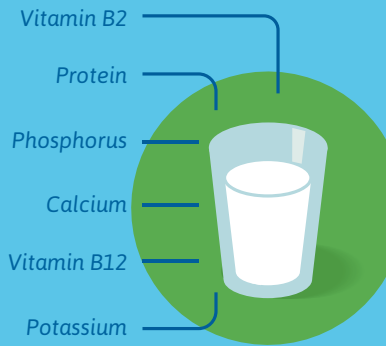
Praised for excellence

100% natural

Recommended by the Netherlands Nutrition Centre

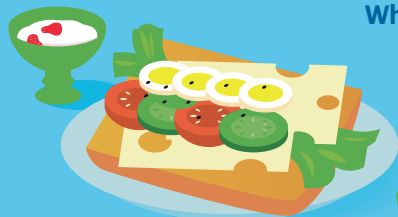
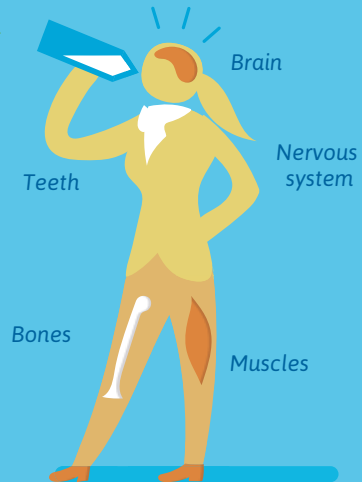


2 - 3 glasses daily



What a body needs

Milk is good for your:



Dairy is part of a healthy and sustainable diet

DUTCH DAIRY AT A GLANCE



ECONOMY & SUSTAINABILITY

1,6 mn
cows



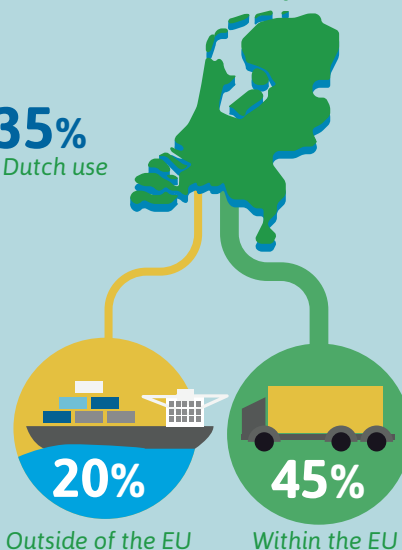
28%
of dairy companies
conserve energy by utilizing
the natural heat from milk



20%
less antibiotic
use in 2014
compared to 2013



35%
for Dutch use



Dairy's contribution
to the Dutch trade
balance **9%**

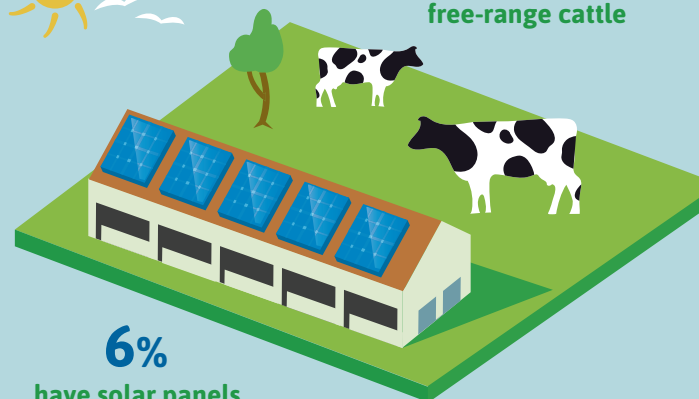


53
dairy factories

Direct and indirect
employment
60.000



78%
free-range cattle



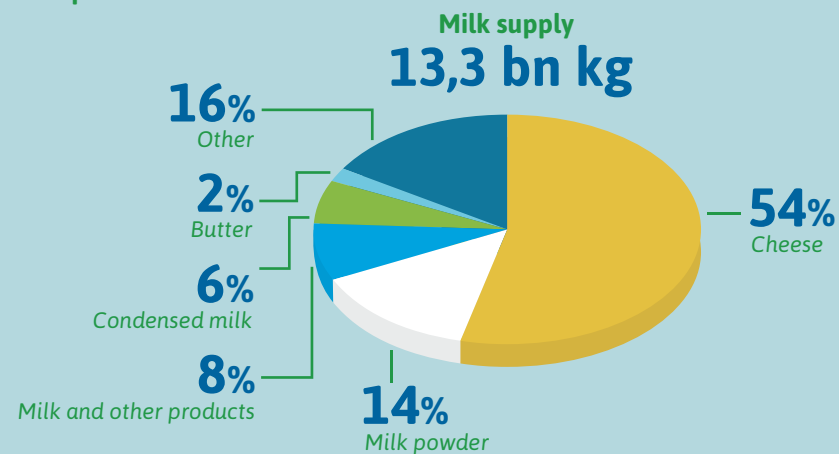
6%
have solar panels

100%
use responsible soy



Production value

€ 6 mn dairy industry
€ 4,2 mn dairy farming



17.500 dairy farms

To explore
the potential
of nature to
improve the
quality of life



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Wageningen Livestock Research creates science based solutions for a sustainable and profitable livestock sector. Together with our clients, we integrate scientific knowledge and practical experience to develop livestock concepts for future generations.

Wageningen Livestock Research is part of Wageningen University & Research. Together we work on the mission: 'To explore the potential of nature to improve the quality of life'. A staff of 6,500 and 10,000 students from over 100 countries are working worldwide in the domain of healthy food and living environment for governments and the business community-at-large. The strength of Wageningen University & Research lies in its ability to join the forces of specialised research institutes and the university. It also lies in the combined efforts of the various fields of natural and social sciences. This union of expertise leads to scientific breakthroughs that can quickly be put into practice and be incorporated into education. This is the Wageningen Approach.

