

2012

# The Tanzania Dairy Industry



Tanzania Dairy Industry Overview-2012  
Sokoine University of Agriculture  
10/1/2012

# The Tanzania Dairy Industry

By Lusato R. Kurwijila, Amos Omore and Delia Grace

## Background

Tanzania has the third largest (after Ethiopia and Sudan) cattle population in Africa estimated at 21 million heads according to the most survey by the National Bureau of Statistics (NBS, 2007). However, most cattle are of low milk producing indigenous shorthorn East African zebu that make up more than 96% of the population. Crossbred and exotic dairy cattle (mainly Friesian and Ayrshires) totaled around 600,000 in 2007/2008. The huge cattle population is kept by 1.7 million (about 37% of total) rural households; 71% of whom keep between 1 and 10 heads of cattle (average = 13 heads of cattle). The cattle are concentrated in only a few of the 26 Tanzania mainland regions and in Zanzibar (Figs 1 and 2).

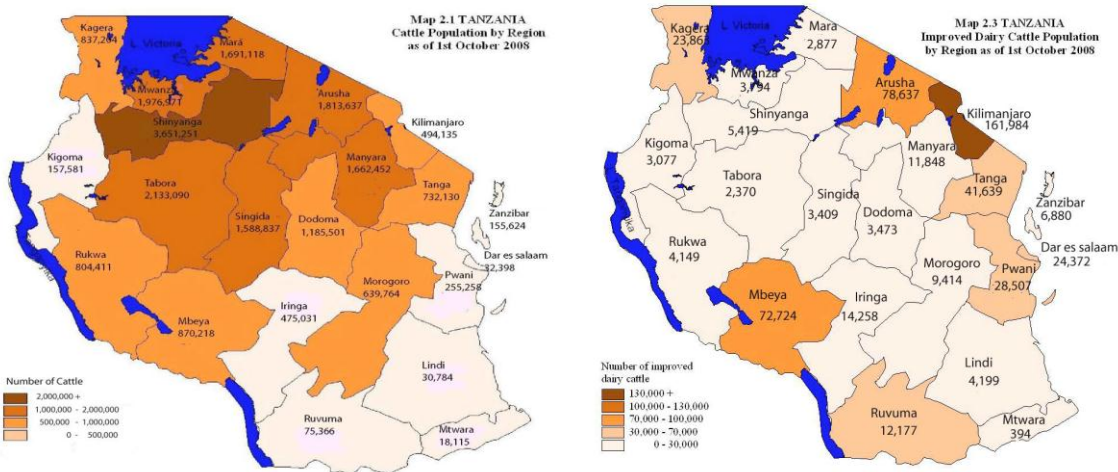
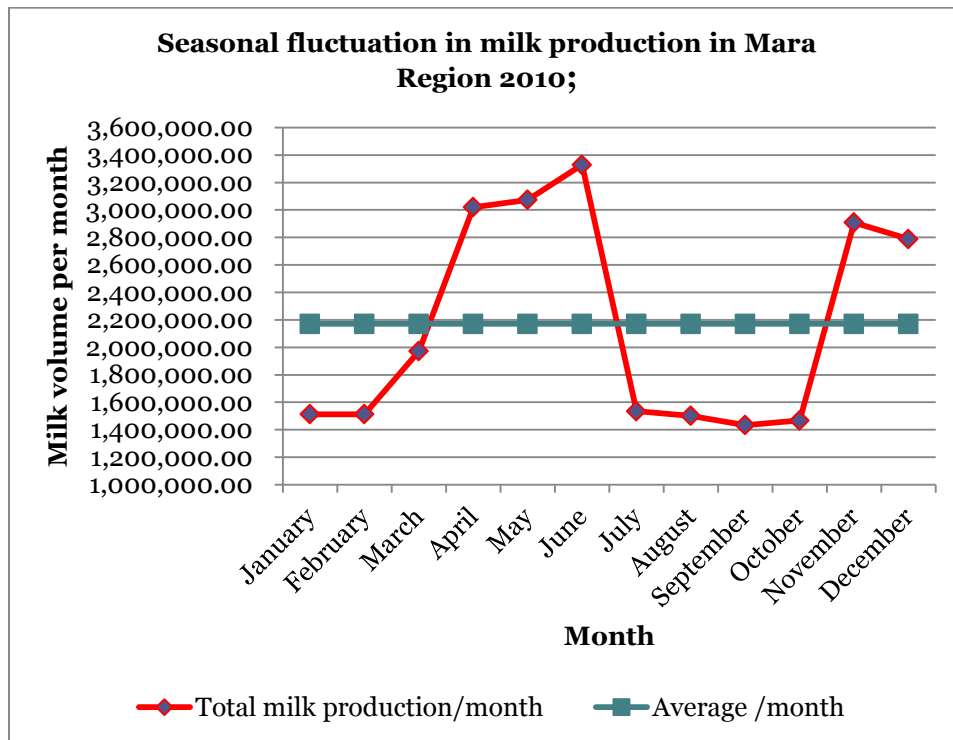


Fig 1 - Left map: Total cattle population and distribution in Tanzania  
 Fig 2 - Right map: Improved dairy cattle population and distribution in Tanzania  
 Source: National Bureau of Statistics (2007/08)

Regions with more than one million heads of cattle include: Shinyanga, Mwanza, Arusha, Mara, Manyara, Singida and Dodoma that are mainly lowland and humid (Fig 1). Most of the improved dairy cattle are concentrated in the high potential, cooler highland regions with subtropical climates around Kilimanjaro, Arusha, Tanga and Mbeya (Fig 2). The possibility of utilizing other areas for livestock production has been limited by tsetse infestation.

## Dairy Production systems

Milk production from the traditional herd is mostly for subsistence. There is a strong seasonal fluctuation in rainfall hence feed availability and production whereby dry season production can be as low as 56% of the wet season production (NBS, 2003). The seasonality also influences producers' management of their animals' reproductive cycle in intensive systems and transhumance extensive systems. Data for Mara region where indigenous cattle are the main source of milk illustrates this phenomenon quite vividly (Fig. 3).



*Fig 3: Milk production in Mara region*

The situation is quite different in smallholder production systems where most improved dairy cattle are found. Crossbred cows produce considerably more milk (up to ten times) compared to traditional zebu cattle which average 3 litres during the wet season and 2 litres or less during the dry season (NBS, 2007/2008). Because of better feeding of the mostly zero grazed smallholder dairy cattle, production of surplus marketable milk is more consistent and suffers less season fluctuations than the traditional cattle which depend entirely on seasonal availability of pastures and water (Fig 4). Data for Mwakaleli Dairy Co-operative in Rungwe District in southern highlands in Mbeya Region are milk collection volumes from crossbred dairy cattle whereas the data from Serengeti Dairy Co-operative Society were entirely from traditional cattle. The difference in seasonal milk fluctuation is quite staggering.

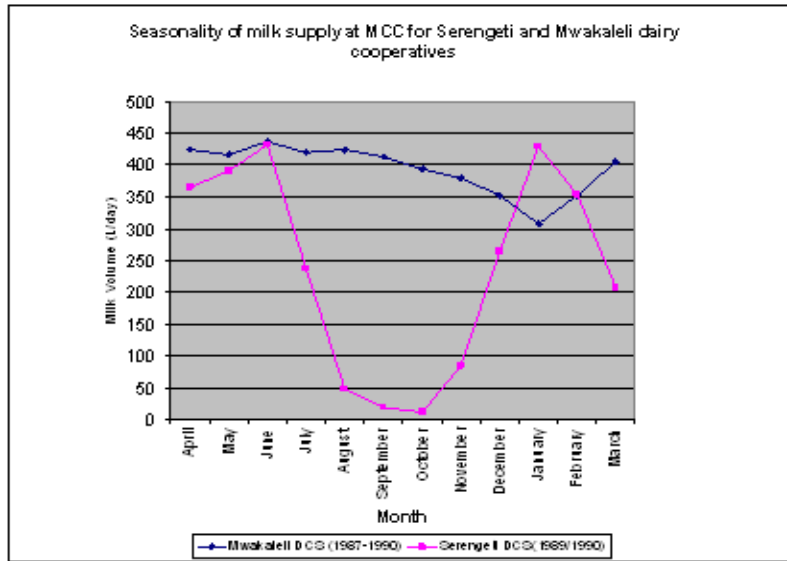


Fig 4: Milk collection at two milk collection centres under different production systems

Large scale production farms kept only about 120,014 head of cattle including beef types in Tanzania Mainland. Large scale commercial dairying is therefore relatively less well developed. However, on well managed commercial large scale farms production can be relatively more stable with respect to season fluctuation as data from Sokoine University dairy farm shows (Fig 5).

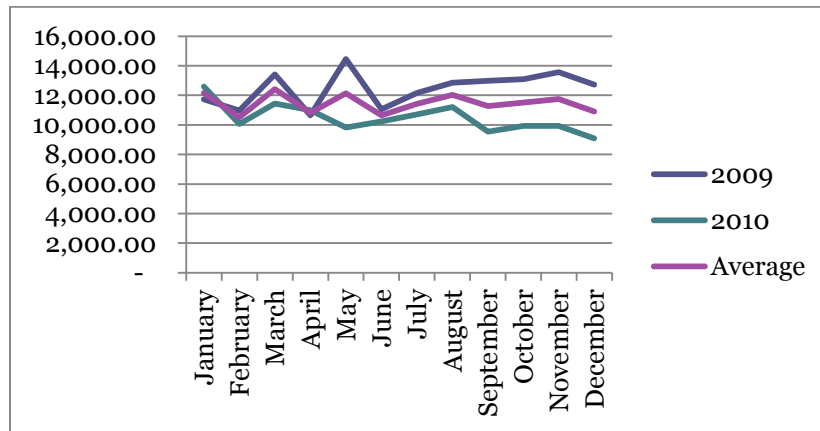


Fig 5. Seasonality of milk production at Sokoine University of Agriculture Magadu Farm(2009-2010)

Collective action through dairy farmer groups is considered critical for improved milk marketing where unit volumes are small as in Tanzania. However, the role of such groups is seen to be very small currently, thus denying smallholder producers the opportunity for sustained participation in milk markets and collective access to inputs and services, that would enable them to overcome the main constraints of feed, animal health and breeding.

## Milk processing, marketing, imports and consumption

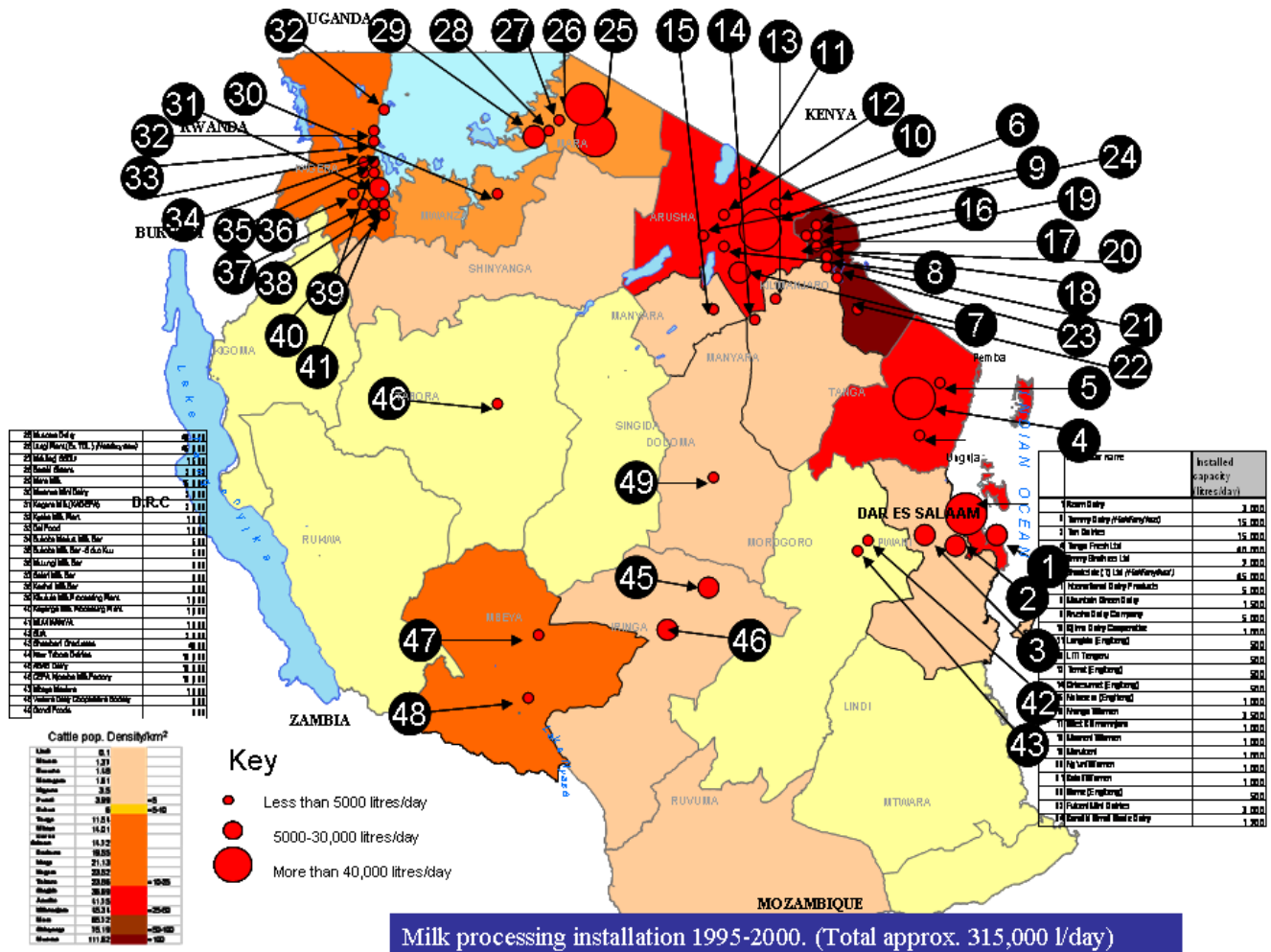
---

Studies by Sokoine University of Agriculture (SUA) and the International Livestock Research Institute (ILRI) show that demand for milk has been rising sharply over the last decade; driven mainly by human population that is growing fast at 3.3% per annum and high economic growth rate of about 7% per annum over the last decade. The gap between demand and local supply is predicted to continue to widen in the medium term. Milk is mainly consumed in its fresh liquid form (added to beverages such as tea) and locally fermented milk (*Mtindi*).

Milk production is currently estimated at 1.6 billion litres per annum or about 42 litres per capita<sup>1</sup>. This represents 130% increase over the last decade. Average producer prices fluctuate seasonally but have fallen dramatically over the last decade from about US\$ 0.4 in 2000 in some areas to about US\$ 0.3 currently, implying a more stabilized market and better distribution. There are more than 50 processing units ranging in capacity from less than 1000 litres per day to 30,000 litres per day. Most are situated in areas with high population of improved dairy cattle. Most operate at less than 30% of installed capacity due to a number constraints, including inadequate milk collection and cooling infrastructure, weak institutional support and lack of grassroots organization for collective action by smallholder farmers who dominate production. It is estimated that less than 3% of milk produced domestically is processed. More than 86% of marketed milk from local production is sold to neighbours in the vicinity of producing households (NBS, 2003). More than 95% is marketed raw. Conservative estimates are that about 30-40 million litres of liquid milk equivalent is imported in the form of mostly milk powder (both whole and skim milk), infant formula, UHT milk, butter and cheese. Imports have been growing since 1995 when the industry was liberalized for private sector participation. Milk imports from outside the EAC countries except infant formula attract 60% Common external tariffs. According to a recent publication by the Tanzania Milk Processors Association (TAMPA), while imports have been rising at about 9% annually, locally processed milk has declined by more than 80% over the last 15 years accompanied by the closure of 13 dairy plants over the period. The volume of milk imports is currently equivalent to that processed from local production.

---

<sup>1</sup>While the latest FAOSTATs indicate per-capita milk consumption in Tanzania has remained unchanged at about 24 litres over the past decade, NBS in Tanzania estimate that milk availability per capita has increased to 42 litres.



Milk processing installation 1995-2000. (Total approx. 315,000 l/day)

## Institutional set up

The Tanzania Dairy Board ([www.tanzaniadairyboard.or.tz](http://www.tanzaniadairyboard.or.tz)) is semi-autonomous institution established by the Dairy Industry Act Cap 262 (2004) to regulate and promote the growth of the industry under the Ministry of Livestock and Fisheries Development ([www.mifugo.go.tz](http://www.mifugo.go.tz)). Key stakeholder organizations and the private sector are represented on the Board. The key stakeholder organizations include the Tanzania Milk Producers Association (TAMPRODA) and Tanzania Milk Processors Association (TAMPA). Dealers in milk and milk products are required by Law to register with the Tanzania Dairy Board. Both foreign and local investors are eligible for various tax incentives by registering with the Tanzania Investment Centre (TIC) ([www.tic.or](http://www.tic.or)). Tanzania has ample land suitable for commercial dairying.

There are no specialized dairy training institutions in Tanzania both at technical and University level. Students training at certificate and diploma level at Livestock Training institutes such as Tengeru, Arusha and Buhuri, Tanga and Uyole, Mbeya and those studying

Bachelor Science in Animal production and Food Science and technology at Sokoine University of Agriculture cover some courses on dairy science.

## Highlights of constraints to commercial dairying

---

There are six inter-related key problems that face cattle keepers and widely considered to constrain commercial orientation in milk production in Tanzania:

- Seasonality of rainfall (and access to water) is extreme and reflected in producers' management of their animals' reproductive cycle in intensive systems and transhumance in extensive systems, resulting in an exacerbation of the seasonality in terms of milk volumes
- Most milk is sold directly and in small quantities by individual smallholder producers, creating diseconomies of scale
- Complex cooperative models and technology-driven solutions for smallholder cattle owners in most locations have largely failed because they presuppose an unrealistic level of production and organisational commitment and capacity that are often not pro-poor
- Suitable organisational models have been lacking to facilitate collective action for bulking of milk, entry to milk markets and access to inputs and services while increasing the capacity of poor cattle keepers to innovate, manage risk, reduce vulnerability, increase their incomes and ensure food security
- High risks associated with unorganised milk sales—particularly in relation to prices, feed sources and animal health—discourage investment by smaller producers to improve productivity. Contributing to this is lack of credit facilities for basic inputs and services (or working capital to purchase these) that perpetuates a low-input low-output vicious circle
- SUA researchers have documented high rates of morbidity and mortality of 8-15% on average. This could be reduced to 5% with optimal access to inputs and services. The most commonly reported priority health problems are infectious diseases such as East Coast fever anaplasmosis, contagious bovine pleuro-pneumonia (CBPP), trypanosomosis and babesiosis. Zoonotic bovine diseases are also common - Tanzania ranked in the top five African countries for high burden of zoonoses in a study conducted by ILRI.