THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF WATER AND LIVESTOCK DEVELOPMENT

SCHOOL MILK FEEDING PROGRAMME IN TANZANIA

A paper presented to the 1st Eastern and Southern Africa School Milk Conference Kampala on 27th to 30th September 2005

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1.0 BACKGROUND INFORMATION

1.1 Introduction

Tanzania is one of the Least Developed Countries (LDC's) with a per capita income of about US $ 330 per annum (World Bank Report, 2005). It covers a total area of 94.5 million hectares of which 88.6 million hectares of land mass supports a human population of about 34.4 million (Human Census 2002), estimated to grow at the rate of 2.8 percent per year.

The economy of the country is heavily dependent on agriculture (crops, livestock, fisheries and forestry), which account for 50 per cent of the Gross Domestic Product (GDP). The Livestock Sub sector in Tanzania generates about 30% of the Agricultural GDP, out of which about 40% is from beef, 30% from milk while poultry and small stock is about 30% (MWLD 2001).

Livestock production is one of the major agricultural activities in the Country. It contributes to national food supply, accounts for 6.1% of the national GDP. Furthermore, the livestock sector provides best source of animal protein, food security, a source of cash income and inflation – free store of value, manure for the crop fields, draught animal power, and other socio – economic functions.

The country is endowed with a large livestock resources of about 17.7 million cattle, 12.5 million goats, 3.5 million sheep, 0.85 million pigs and about 47 million chickens (27 million indigenous and 20 million commercial chickens (MAFS 2001). Tanzania ranks third in Africa in terms of cattle population after Sudan and Ethiopia.

This paper provides highlights on dairy production and dairy products utilization in the country with emphasis on the school milk feeding programme as a strategy towards milk utilization in terms of increased consumption and market volumes.

1.2 Dairy Farming System

The dairy sector in Tanzania is subdivided into various systems namely smallholder dairy farming systems integrated with perennial crops or annual crops, urban/peri-urban dairy with horticulture, specialized medium scale with minimum cropping and large-scale /estate dairy farms.

More than 65% of the milk is produced in the traditional mixed-farming systems prevailing in the rural areas, where the bulk of the commodity is consumed with

small surpluses filtering through into the growing urban centres. The traditional herd is located mainly in the Central, Northern and Western parts of the country. The system is characterised by low productivity, but high per unit of invested money. Production costs are also very low. Due to the remoteness of the system, marketing is the largest bottleneck. The produced milk is only consumed locally and quite often a significant amount is left for the calves because of the lack of markets.

However, some producers who depend on milk for their cash income are willing to exploit available opportunity in marketing their produce for example Maasai herders who transport milk by bicycle over long distances, for sale at collection centres located along Morogoro road; within Chalinze area. The system is flexible, as is illustrated by the fact that cattle owners rotate cows in milk with dry cows between the roadside (e.g. Segera – Chalinze - Dar Es Salaam highway) and the rangeland areas.

Smallholder dairy farms are relatively small in size and are practised in diverse climatic conditions. The system is either integrated with perennial crops (banana – coffee) or with annual crops. The system integrated with perennial crops enjoys reasonable climatic conditions even for pure-breed dairy breeds and commonly practised in Southern and Northern Highlands and Kagera Region. The system, which is integrated with perennial crops has a diverse climatic condition and is practised in most areas of the country. Smallholder dairy system is expanding at a fast rate (more than 6%).

The urban-peri urban dairy farming system is mainly practiced in the urban and peri-urban areas mainly due to availability of market, need for employment opportunities and ease of integration with agricultural/horticultural activities. Research done in this subsystem indicates that urban milk production is not sustainable but rather is a transitional system to medium scale dairy farming in peri urban areas (NEI 2000)

In Specialized Medium Scale dairy farming system, milk production is the main economic activity of the farm. The unit of the farm comprises of 10-50 cows and the management is mainly paddock grazing system rather than zero grazing. Medium scale dairy farms are found near big urban centers such as Dar Es Salaam, Tanga, Mwanza and Musoma.

Large Scale and State dairy farms - These are farms with 50 or more cows. About a dozen of such large-scale dairy farms exist, with a total of about 10,000 dairy

cattle. Most of these are government and parastatal farms, which are in the process of being privatized. In addition a number of privately owned large-scale farms exist, particularly in Iringa and Arusha regions.

As shown on Table 1 milk production has been increasing from both indigenous and dairy cattle from 1995 to date. The increased production from indigenous cattle is due to increase in number and milk collection from rural areas, while that from dairy cattle was mainly due to increase of the dairy herd, which is estimated to have increased annually at the rate of 6%. Big potential in milk supply from rural areas still exists; to exploit it requires improved infrastructures such as collection centres, roads and transport network.

Milk importation has been reduced from 89 million litres in 1978 to 5.0 million litres in 1999 (NEI 2000) and the gap has been filled by milk produced in the country. Without the development of the dairy sector during the last thirty years milk production would have been very low.

Alongside the establishment of large-scale dairy farms, the Tanzania Dairies Ltd. (TDL) with a capacity of 309,000 litres per day, were designed for re-constituting milk powder (except the Musoma plant). The main problem was under utilisation, tear and wear, finance problems, TDL in 1995 had to close and new private processors emerged to fill the gap (refer Annex 1)

Due to the decline in TDL's milk collection and processing capacity over the years and improvements being made in promotion of smallholder dairy production in areas such as Kagera, Arusha, Kilimanjaro, Tanga and Mbeya, small scale milk processing has emerged in Tanzania since 1990's. Since then milk processing capacity has increased due to emergency of medium and small-scale dairy processing plants. Currently the milk processing capacity in the country is estimated to be 500,000 litres per day but the actual milk processed is 150,000 litres per day. The existing milk processing plants are privately owned as shown on Annex 1.

1.3 Milk Production

Most of the milk produced comes from traditional sector (indigenous cattle) kept in rural areas, while the remaining come from improved cattle mainly kept by smallholder producers.

Production of milk from traditional cattle is estimated at 920,000 litres in 2004/2005, which is about 65% of total milk production in the country (MWLD, 2005) as shown in Table 1 below.

However, most of the marketed milk comes from improved dairy cattle, which are located in urban and peri-urban centers, while traditional cattle are located in remote areas. The main source of milk production in Tanzania is from cattle.

Table 1 Milk Production and Consumption Per Capita

Item	1996/1997	1999/2000	2002/03	2004/05
Indigenous Cattle ('000' lts)	370,000	445,000	620,700	920,000
Improved cattle ('000' lts)	230,000	265,000	359,800	466,400
Total Milk Production ('000' lts)	600,000	710,000	980,500	1, 386,400
Human population	29.4	32.8	34.5	35.9
Milk consumption per Capital	20.4	21.6	28.4	38.9

Source: MWLD 2005

1.4 Milk Consumption and School Milk Feeding

Milk consumption has been increasing from 20 litres in mid 90's to current consumption of 39 litres per person per year. The rapid increase in milk consumption among other reasons, is attributed to stakeholders efforts to promote milk consumption through many ways including annual milk week commemorations, milk carnivals, use of audio visual media (TV and Radio) and school milk feeding programmes. However, Tanzania is still among the countries with low annual milk consumption rates as compared to the neighbours and other countries in the world. Per capita fluid milk consumption is 84 litres for Kenya, 40 for Uganda, 97 for USA, 76 for Brazil, 157 for Sweden, 33 for India and 10 for China. The recommended per capita by FAO is 200 litres.

The cause of such small consumption rate in Tanzania, among others is attributed to cultural beliefs and traditional taboos, which discourages people to drink milk as food. This calls for efforts to cultivate habit of taking milk as food/

drink to people especially children. Majority of schoolchildren in Tanzania attend day schools, few of which provide a midday meal. In rural areas the school is often some kilometers from the homes. Most of the children leave home early and walk a considerable distance to school. Often the child has little or no breakfast at home before they sets out. Ways and means should be sought to introduce school milk feeding programme in Tanzania to increase milk consumption to children and thereafter become potential buyers/ consumers of milk. Milk consumption improves IQ and general health of children.

In order to increase milk consumption levels and there by size of domestic market, Tanzania in collaboration with other SADC countries observes a Milk Consumption Promotion Week every June since 1999. In addition a School Milk Feeding Programme which was launched in 2002 is at present relatively better implemented in Kilimanjaro, Arusha, Dar es Salaam and Tanga regions. The School Milk Feeding Programmes apart from being important in improving children's health and attendance to classes is also a strategy to develop a sustainable domestic market of milk and milk products.

2.0 SCHOOL MILK FEEDING PROGRAMME

2.1 Policy

The government policy in the dairy sub sector among others is to facilitate and strengthen the local milk market and assist private sector to own processing plants. One way of strengthening local milk market is by promoting milk consumption to create local demand. In this perspective the government is positive towards the move to feed milk to school children as a strategy to market the milk, strengthen children's health and consequently develop dairy subsector.

2.2 Initiatives of School Feeding Programme in Tanzania

The Ministry of Water and Livestock Development convened a meeting on 15th May 2001 with some few stakeholders to discuss possibilities of initiating School feeding Programme in Tanzania. The meeting involved officials from Tetra pack, UNICEF, Milk Processors, Tanzania Food and Nutrition Centre and Ministry officials. It was concluded that not only will the school milk feeding programme increase milk consumption and market volumes for both producers and processors it will also promote school children attendance, intellect and performance.

The meeting suggested the programme to be implemented stage by stage starting from Municipalities/ Cities/ township then later on could spread to rural areas. A

framework of the programme was developed during Milk Promotion Week conducted in Arusha on June 2001 but the programme started in Arusha and Moshi Municipalities and officially opened on October 2002. The programme was later on conducted at Dar es Salaam the capital of Tanzania, Coast and Tanga regions.

The School Milk Feeding Programme for Northern zone is going on well and of recent there has been some achievements realized from the programme. Some other primary schools in these regions have invited the programme with success. However, there are 18 primary schools participating in this programme in Northern regions.

2.2.1 Objectives of School Milk Feeding Programmes

The objectives of school milk feeding programme is:

- To alleviate poverty and malnutrition amongst young school children by improving their health as milk is nature's most balanced food in terms of carbohydrates, protein, amino acids and minerals. In so doing we also improve the IQ of children.

- To facilitate milk marketing which aims at preparing children to love drinking milk, a habit that they will carry throughout their life and pass it to their children and grand children.

- To improve on the attendance of children in school since studies have proved that there is improvement in attendance when children are served with a meal in school like milk.

- To develop dairy sub sector in processing and production of milk

2.2.2 Strategy towards Providing Milk in Schools.

There are several suggested ways of providing milk in schools;-

- The dairy industry stakeholders (i.e. farmers, processors and associations) can provide milk in schools as part of their marketing strategy free or with a fee.

- In some countries this is a public good i.e. it is the responsibility of central/ municipal/ local governments to provide milk to all children below age of 18 years. In case of Tanzania this has not been possible though efforts are

done by stakeholders to convince the government on the importance of school milk programme.

- Commercial distributors/ processor can supply milk to schools and payment made by another person/ agent or donor.

- Multi-lateral institutions like WFP, Caritas and other local and international NGOs can provide milk to schools at no cost.

All the above strategies can be used depending on the environment and stakeholders agreements.

The approach used in Tanzania is to involve the stakeholders of the industry within the locality. Schools were identified and stakeholders workshops was conducted to sensitize the parents, school committees, Councilors, NGO's involved in dairy development administrators and politicians of the particular localities. Sensitization workshops were conducted by the joint committee with members from Tanzania Dairy Board, Ministry responsible with livestock development, Tanzania Food and Nutrition Centre, Ministry responsible with education and NGO's. After sensitization workshop then the school parents committee and the Committee plan together modalities and frequency of supplying milk to children. The NGO's and other donors are very important at this stage but also contributions from parents are equally important.

2.2.3 Type and Form of Milk Provided

Milk can be provided to schools as whole milk, yoghurt, Biscuits, Chocolates and other fortified foods with milk. The dairy stakeholders in Tanzania have suggested using packed (processed) milk for school milk feeding programmes where they are available. This is because processed milk is safe and easier to handle and furthermore milk processing is promoted.

2.3 Experiences from Other Countries

School milk feeding programme has been practiced in many countries in the world to mention a few; Thailand and China where such programmes have contributed in transformation of dairy industry. In Thailand after one decade of school milk feeding the annual growth rate of dairy industry was 14% due to increase in intensive dairy farming and malnutrition was reduced from 20% to 9%.

School milk programmes in United States is purely a government responsibility while in China there is tax reduction for school feeding programmes.

It is reported that in the year 2004 there were 64 countries which have activity regarding school milk feeding programme while in the year 2003 there were only 29 countries (FAO, 2003). The countries are as follows:-

Europe 26:

Austria, Belgium, Czech, Denmark, Estonia, Finland, France, German, Greece, Hungary, Iceland, Ireland, Italy, Luxemburg, Moldova, Netherlands, Norway, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, UK

America 10:

Argentina, Barbados, Brazil, Canada, Colombia, Guyana, Mexico, Trinidad, Uruguay, USA.

Asia 16:

Bangladesh, China, India, Indonesia, Iran, Israel, Japan, Jordan, Lebanon, Malaysia, Oman, Pakistan, Philippines, Saudi Arabia, Thailand, Vietnam.

Oceania 1:

Australia

Africa 11:

Egypt, Ethiopia, Kenya, Lesotho, Malawi, Namibia, South Africa, Swaziland, Tanzania, Uganda, Zambia.

3.0 WAY FORWARD

The introduction of school milk feeding programme should involve key stakeholders like parents, politicians, milk processors, Non-Governmental Organizations, Livestock experts, District Executive Directors, Teachers, Community Health Workers, ward executives and councilors. The exercise should be participatory so as to involve all them in decision-making like choosing the method of implementing the programme, how to influence decision

makers, how to influence media, promoting positive attitude towards milk, milk subsidies, financial support from stakeholders (parents, etc.

For sustainability cost sharing between parents and other agents like donors and government is very important. The programme can start as wholly funded as food aid project and slowly the cost could be shared to ensure sustainability.

It is suggested that a central agency which is neutral is needed to coordinate and oversee such programmes. An agency like Tanzania Dairy Board can do the task in collaboration with NGO's and the government.

The programme is multi-sectoral and therefore it is necessary to mobilize and educate all sectors, which are involved in the programme before implementation.

In Tanzania dairy industry is scattered almost all over the country in almost twelve milk shades or zones therefore the program can be implemented in each milk shade depending on the stakeholders' decisions.

It is important to use processed milk in school milk programmes to observe hygiene and create demand for processed milk. In this case milk processors should play a key role in the programme.

4.0 CONCLUSIVE REMARKS

The dairy industry in this country is still at infant stage and therefore needs a thrust to develop faster and one way of influencing a faster development could be to promote and implement school milk feeding programmes. The programme will create market for produced milk and this will create demand for milk production and processing. The programme is therefore envisaged to create employment opportunities through increase in dairying activities.

5.0 REFERENCES

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6.0 ANNEX

Milk Processing Plant

No.	Milk Processing Plants	Capacity/day
1.	ASAS Dairies Ltd.	10,000lts
2.	Royal Dairy Products Ltd.	90,000lts
3.	Arusha Dairy Co.	4500lts
4.	New Northern Creameries	45,000lts
5.	Tan Dairies – DSM	4500lts
6.	Musoma Dairy	120,000lts
7.	Mojata Dairy	4,500lts
8.	New Mara Dairy	10,000lts
9.	Njolifa (Italians) – Njombe Livestock farmers Association	10,000lts
10.	Ideal Products	3,000lts
11.	Tanga Fresh	15,000lts
12.	Tommy Dairies	14,000 lts
13.	Victoria Dairies (Kishimba)	15,000lts
14	Bukoba milk trade	6 000lts
15	Azam	3 000 lts
16	Tabora dairy	3 000 lts
17	Utegi dairy	45 000 lts
18.	Others	107 500 lts
	Total	**510,000 lts**

Source: MWLD Report 2002