

Lecture 1

INTRODUCTION

The current status of dairy production in Nigeria shows that there are 16 million heads of cattle of which 85% are managed by 12 million indigenous pastoralists. Over 415 grazing reserves exist all of which are grossly underdeveloped. About ₦75 billion is spent annually on importation of milk and dairy products. The consumption level of dairy products is low estimated at 2kg per caput annually while cattle production system is largely smallholders' with little or no purchased input. Cattle productivity is low due to high reproductive wastage, low calving rate as well as low milk yield per lactation.

It is also important to note that the main dairy products in the Nigerian market are made from reconstituted milk powder from Europe, United States of America, South Africa, New Zealand, etc, which differ in taste, flavour and nutrient profile compared with fresh milk. Majority of indigenous dairy farmers lack basic education, which preclude them from making contribution on policy issues affecting their production. Furthermore, urbanization and expansion in arable farming activities deny them access to grazing lands. Even with grazing reserves being developed by Government, limited infrastructural resources including water, pastures, health facilities and market facilities diminish accessibility by majority of producers.

A SURVEY OF DAIRY INDUSTRY IN NIGERIA

Dairy industry implies the production, the processing and the distribution of milk and milk products. By this definition, the industry is yet to be fully developed in this country and in other West African countries. There is a need to develop the industry because there is a high demand for milk and dairy products due to increasing population and increasing knowledge on nutrition. However, there must be trained personnel to collect, process and distribute the milk while there must be a continuous supply of milk to sustain the demand of the markets.

Dairy Schemes in Nigeria

The dairy schemes in Nigeria can be classified into three categories viz: those whose herds are settled, those whose herds are unsettled and those without herds.

a) Dairy schemes whose herds are settled:

Settled dairy schemes are those whose establishments are highly organized and permanent on one site. Most settled dairy schemes are government owned. Dairy schemes in this category are the urban dairies, dairies on schools of Agriculture, universities and vocational institutions.

i) Urban Dairies

Urban dairies are dairies that are established near the city to supply milk and milk products. They consist of the farm and the processing centre. High yielding cows, like the foreign breeds of Holstein, Brown Swiss, Jersey and their crosses (exotic x indigenous crosses) are kept. An urban dairy is usually equipped with pasteurizing, refrigeration and packaging equipment. Milking is usually by machine while in modern farms, equipments are employed for farm operations. Urban dairies in the country Include:

- **Agege Dairy:** The oldest dairy farm in Nigeria, established in 1942. It was formally a beef station to serve the army during the 2nd world war. On this farm began the pioneer work which provided information for the policy and execution of most dairy projects in the country.
- **Ikorodu Dairy:** It started in 1965 with the aim of investigating how dairying can be profitably integrated into the general farm programme thereby practicing mixed farming. By 1972, this objective changed because the farm institute in which the dairy was situated became a School of Agriculture.
- **Ikenne Dairy:** This was originally Dairy Herd Multiplication Centre for the purpose of breeding and selecting the breeds of exotic cattle for distribution to government stations. In 1967, about 100 animals of various exotic breeds (Holstein, Brown Swiss and Jersey) were imported from U.S.A. The project was not well financed and it had to close down.
- Other urban dairies under plan were Sokoto, Benin, Port-Harcourt, Calabar, Shika, Samaru, Nsukka etc. Universities and Schools of Agriculture Dairies were for Teaching and Research e.g. Universities of Ibadan and Ife (now Obafemi Awolowo University).
- Many urban dairies were under construction in almost every state for most part of 1970s. However, a decision could not be arrived at as to which particular breed would be best suited to the environmental conditions of this country. In spite of all the

commitments, urban dairies could not make much impact on the milk consuming market in Nigeria because of the following:

1. There has been continuous population increase
2. The milk supplied from industries was inadequate
3. Inability of the imported cattle to produce milk due to diseases and environmental problems
4. The indigenous breeds were low producing
5. No organized collection and processing of milk from indigenous cattle to ensure uniform distribution
6. Indiscriminate importation of foreign animal
7. Poor feeding
8. Seasonal fluctuations in production and consumption.

b) Dairy schemes whose herds are unsettled:

These are schemes which do not maintain a farm for rearing cows. Under these schemes, a dairy is built with milk collection centre in central areas to the kraal. Milk is purchased from the herds men who are predominantly Fulanis and Shuwa Arab tribesmen. The milk is subjected to physical and chemical tests for acceptability. The milk is then transported to the dairy processing centre some kilometers away where it is pasteurised and sold as liquid milk, cheese, butter and yoghurt. Schemes that follow this pattern include the **Ilorin milk pilot project**. The Dairy is built in Ilorin and the milk is collected from a distance of 10km radius. Ilorin milk pilot project was equipped with modern equipment donated by the UNICEF. Pasteurised milk, butter and yoghurt are made from the milk so purchased. Others are Kaduna Dairy, Kano Dairy, Maiduguri Dairy and Birnin kebbi dairy.

c) Dairies without herds:

This is the scheme without herds called the 'Plants'. These are dairies which depend upon importation for their raw materials. They include:

- o **SAMCO** (Swedish African Milk Company). It is based in Mushin, Lagos State. Founded in 1959. It imports materials like dried whole milk or skim milk powder, butterfat, flavouring, colouring and sweetening agents for recombined milk and milk products.

- **FAN MILK** at Eleyele, Ibadan, Oyo State founded in 1960. It was founded by a Danish merchant.
- **WAMCO** (West African Milk Company), founded in 1974. It has a recombining plant. It is different from SAMCO and FAN in that its milk is packed in tins, whereas SAMCO and FAN MILK pack their products in cartoons. Friesland found WAMCO. He combines local production with imports from the Netherlands.

d) Rural dairy schemes:

The most important and the least developed is milk production from local semi-nomadic herds scattered throughout the country. The development of local production of milk among these semi-nomadic herdsmen constitutes the rural dairy scheme. A milk production survey revealed that the main breeds used are Keteku, Bunaji (WF) and Ndama breeds. The Fulanis (the main cattle rearers) who by nature are superstitious and secretive would not release accurate figures of the breed as well as accurate milk production figures. Bush grazing rather than established pastures is the rule. Early in the morning, the cows are tethered down to suckle the calves for a few minutes before the cows are milked. The animals are later driven to graze in the bush. A distance of 8 km daily may be covered in search of water and good grass. In the dry season, the distance may be longer. After grazing, they returned to kraal in the evening where they are tethered down to suckle after which they are hand milked by the housewife. The milk is collected in a calabash and handed over to the housewife. Half of the milk is consumed and half is manufactured into local cheese called 'gashi' using bomubomu leaves until 'junket' (curd) is formed. Bomubomu leaves possess a proteolytic enzyme like resin which curdles milk. Junket is added into small basket moulds to drain off. It is then sold to the middlemen. Calf mortality is about 50%. There is no preserved food for the animals in the dry season, However, some browse plants are fed to the animals. These are supplemented with the dry fibrous bush available for the cattle in the dry season. The bark of Agano tree plus common salt is used as a kind of local mineral supplement to improve the health of the animals. Inbreeding is a regular feature among the herd. The generation interval of the cow is 4 years. Conception rate is low and lactation period is 6 months. The cow dries up when she losses her calf usually at 3 months. The Fulani is reluctant to cull sick animals except when he needs money, and then he sells off the sick and the old ones in the herd.

Milk production is higher in the rains than in the dry season. Milking is done twice daily. In the rains, the average yield of a cow per day is 3 star beer bottlefuls (1.5 litres) while in

the dry season, half is the yield. Thus, the average yield per cow per day under Fulani management is 1 litre while the same breed can produce 4 litres under improved management.

Advantages of rural dairy scheme

(1) Low capital cost:

The acquisition of land, compensation for acquired land, land clearing and preparation, buildings for stock, fencing, water supply, purchase of expensive farm machines like tractors and implements, purchase of stock and their maintenance etc are dispensed with. Thus, the high cost expended on opening a livestock station is saved.

(2) Promotion of dairying to private farmers:

The Rural Dairy Scheme is a short course towards passing milk production enterprise to the private sector. The government livestock stations have been doing the job for decades yet very few farmers are in the livestock business. With the Rural Dairy Scheme, the dairy farmers that are already in the business only needed to be educated, advised and given the right incentives.

(3) A change system to nomadic Fulanis:

The nomadic nature of the herdsmen will change as the regular purchase will make them settle as farmers. This type of settlement has tremendous advantage. Each animal can be located. Statistics for planning for development will be easily available if the farmers are settled. Tax for the country's development will be easily collected.

(4) Easy market for milk and its products

The economic status of the milk farmers will be raised because he can enjoy the benefit of a steady market and standard price for his milk and milk products.

(5) Higher productivity by the milk farmers:

In order to make the herdsmen more productive and become settled farmers, apart from the regular buying of their milk, water dams will be constructed at strategic places, to offset the long trek in search of drinking water. Spraying of their animals to check endo-parasites will be carried out. Free veterinary services will be rendered. Artificial insemination will be carried out on their cows using the semen from proven bulls.