PERI-URBAN DAIRY PRODUCTION IN OGUN STATE

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ABSTRACT

Peri-urban dairy production was assessed in sixty-nine settlements from five Local Government Areas of Ogun State. Majority of the household heads were Fulani from Kwara State. The mean herd size was 12 while the predominant breeds were the Bunaji and Keteku. Calves suckle their dams until weaning at an average of 8.3 months. Estimates of extractable milk from each cow ranged from 227 to 816 litres per lactation. About 85.2% of the extractable milk is processed into wet soft cheese (Wara). Trypanosomiasis and diarrhoea were the commonly reported disease problems. Improved feeding and health management of cattle would improve the current level of milk production in Ogun State.

Key Words: Peri-urban, milk, cattle

INTRODUCTION

Milk and milk products are important high quality animal protein food items that are especially needed to balance the Nigerian diet which is heavily cereal and root-crop-based. Milk production in Nigeria is based largely on the indigenous Zebu cattle population which numbered about 14 million. The pastoral Fulani are the major milk producers in the country. Milk production activities in the humid Southern Nigeria have been mostly restricted to institutional dairies. However, in recent times there has been a noticeable increase in dairying activities in the humid zone of Nigeria with the movement and settlement of the pastoral Fulani in peri-urban locations, probably in response to year-round pasture availability in the zone (Camerou MLFA, 1989, World Bank, 1990). This development provides a challenging opportunity of enhancing the aggregate supply of fresh milk, milk products and meat in the

zone.

This study which is largely exploratory aims at understanding and characterising dairy production systems in Ogun State with a view to identifying researchable constraints for improved milk production, processing and marketing within the peri-urban dairy system in Ogun State.

MATERIALS AND METHODS

The study was carried out in two phases namely:

- (i) A Rural Rapid Appraisal (RRA) reconnaissance survey to determine the areas of the state with sizeable Fulani settlement and cattle population; and
- (ii) A conventional survey to characterise peri-urban dairy production system in the selected areas with a view to identifying constraints.

From the reconnaissance survey, five Local Government Areas (LGAs) were selected for the exploratory study. These are Odeda, Abeokuta North, Yewa North, Yewa South and Ifo Local Government Areas. From each of the selected LGA, Fulani settlements were randomly selected. The settlements were classified as urban, peri-urban and rural based on the distance from a city centre. Thus those settlements that are less than 5 kilometres were classified as urban, those from 6 to 10 kilometers as peri-urban and those above 10 kilometers as rural.

In combination with the exploratory RRA conducted with farmer groups, structured questionnaires were administered to the head of each selected household ("Ruga"). The survey was designed to obtain information of such parameters as socio-economic characteristics of respondents, herd structure, milk production, processing and marketing, farming activities, feed resources, livestock

TABLE 1: SAMPLED HOUSEHOLDS BY LGA AND FARM ENVIRONMENT

	Urban	Peri-urban	Rural	Total
Odeda	-	19	5	24
Abeokuta North	4	25	3	32
Yewa North	-	14	6	20
Yewa South	-	8	4	12
Ifo	-	3	4	7
	4	69	22	95

TABLE 2: SOCIO-ECONOMIC CHARACTERISTICS OF HOUSEHOLDS

		Frequency (%)
Family composition	30 years	1.11
	30 - 40 years	12.08
	41 - 50 years	38.57
	51 - 60 years	43.13
	61 - 65 years	5.11
Place of Origin	Kwara (Ilorin)	87.7
	Sokoto	1.06
	Bauchi	1.06
	Katsina	1.06
	Kogi	1.06
	Oyo	11.08
Education Level	Primary	2.06
	Koranic	87.20
	Secondary	0.00
	No school	10.81

management and reproduction. The survey was carried out in 1994 and 1995 during the 2 wet and dry seasons.

The data was analysed using descriptive and inferential statistics.

RESULTS AND DISCUSSION

Location of the study

Out of the 95 settlements sampled 4 were urban, 69 peri-urban and 22 rural (Table 1). The distances of the settlements to a motorable road ranged from 0.1 to 2 kilometers with a mean of 0.95 km.

Socio-economic characteristics of household

All the households interviewed were headed by men whose ages ranged from 30 to 65 years. Forty-three percent (43%) of the household heads were aged between 51 and 60 years while 39% were aged between 41 and 50 years. The household heads were Fulani. Fulani from Kwara (Ilorin) constituted 85% of the respondents while 11% were Fulani from Oyo. The Fulani have settled in the area for periods ranging from 3 to 15 years. The reasons adduced for settling in the area included availability of forage for their stock,

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availability of good market for their produce and the opportunity to practise arable farming in addition to cattle rearing. Most (98.4%) of the household heads had no Western education. Eighty seven percent (87.2%) of the household heads had Koran education. Most of the households (93.7%) owned and managed their herds as family business. The average size per household was 10 persons made up of 3 males and seven females (Table 2). The number of households (63.9%) that have settled in the study area in the last five years indicated a growing interest in dairy production.

Herd size, type and structure

The mean herd size was 12. The predominant breeds of cattle kept were the Bunaji and Keteku. The Bunaji were more common. Other livestock species kept by the household included chicken, sheep, goat, guinea fowl, in order of numbers. On the average, only about one-third of the cattle is in milk at a particular time. The herd structure is 11% breeding bulls, 52% cows, 17% heifers, 11% male calves and 9% female calves.

Cattle production indices

Reproductive efficiency is a key factor influencing dairy cattle productivity. Generally, bulls run with the cows. The average sex ratio (Male to female) is 1 to 6. Age at first calving ranged from 44.3 to 53.4 months with an overall mean of 46.8 ± 4.7 months. Calving interval ranged from 11 to

27.4 months with an average of 14.3 ± 4.8 months. This is lower than average of 60 months age at first calving and calving interval of 18 - 40 months with an average of 26 months reported for Bunaji and Sokoto Gudali by Pullan (1979). This may be due to improved feeding and management. Replacement or additional cows to the herd were by purchases from the open market.

Cattle management

Animals were grazed during the day and kept overnight in corrals in 38.7% of the households while 59.8% of the household kept their animals overnight in the open without any form of fence. In almost all households (99.2%) calves suckle their dams until weaning at an average age of 8.3 months. Bull calves were generally not castrated. All the households relied on the range as the main source of feed for their stock. Milking cows were not grazed nor fed separately. Animals were grazed for hours ranging from 9 to 12 hours per day depending on the season. Grazing hours increased progressively from December and reach the peak in March (Figure 1). Grazing was done by youths and young adults of the households. Ninety three (93.7%) percent of the household depended on family labour for cattle management and crop farming. Grazers go as far as 7 km from the settlement particularly during the dry season with their animals. Eighty three percent (83.2%) of the household do not feed any form of supplement to their stock. The supplements used by the remaining 16.8% households included cassava peels, cowpea husks and farm wastes. The reasons adduced for not feeding supplement is the fear that animals may refuse to graze given the palatability (taste) of the supplements.

Diseases

Soil eating probably a symptom of advanced Trypanosomiasis (Ogun, 1992) and diarrhoea were the most commonly reported disease problems. Infecting of lactating animal with pathogenic trypanosomes causes a reduction in milk production (Agyemang *et al.*, 1990). About fifty (50.5%) percent of the households

FIGURE 1. HOURS OF GRAZING PER DAY FOR CATTLE IN OGUN STATE

treated observed disease conditions traditionally. Only 23.6% of the households engage the services of veterinary assistance (doctor) for the treatment of diseases. There is a higher occurrence of disease problems during the wet season (76.3%). The respondents reported that the potency of drugs including the traditional ones seem to have reduced as they were not as effective as they used to be. It was also highlighted that the persistent occurrence of disease problems and herd mortality have accounted for the movement of Fulani herds from one location to another. Tsetse fly is repelled from cattle corrals or gathering points with smoke from firewood.

Milk production and sales

Estimates of extractable milk from each cow for consumption/processing ranged from 227 to 816 litres per lactation with daily yields of 0.6 to 1.8 litres per cow. Eighty five percent (85.2%) of the extractable milk is processed into wet soft cheese ("Wara") while the balance is consumed fresh by the household. Fourteen percent (14.2%) of "Wara" produced is consumed by the family. Eighty nine percent (89.3%) of the "Wara" is sold in the settlement to traders who come on agreed dates. The balance of 10.7% is sold on roadside or nearby markets. Traders come from as far as Lagos to buy "Wara". The milk is processed and sold by the women. The major source of recurrent fund to the household is from the sale of "Wara" while capital needs are met from the occasional sale of animals.

Crop farming

Almost all the household (98.4%) have crop farm which range from half to three hectare in size. Kaufmann *et al.*, (1990) reported that most predominant milk producers are the agropastoralists. The crops grown include maize, cassava, guinea corn, yam, pepper, vegetables, cowpea, melon, tomatoes and millet. The distance of the farm to the ruga ranged from 15 to 800 meters. About eighty six percent (85.7%) of the households plan to increase their farm holdings if land is

available. About seventy percent (70.2%) of the household utilise the crop harvest for home consumption while 26.2% households sell their harvests. Only about 2% of the harvest is fed directly to livestock specially during years of crop failure. About sixty-six percent (65.6%) of the households feed their crop residue to livestock especially to sheep and goats that are usually left in the ruga when cattle are taken for grazing. About eighteen percent (18.3%) of the households used crop residues as manure while the others burn them. Women are generally involved in the harvesting and marketing of produce. About sixty-nine (68.7%) of the households reported clashes/conflicts with indigenous crop farmers. the causes of the conflicts included destruction of cultivated crops, pollution of drinkable water and theft of crops. Sixty seven percent (67%) of the respondents reported that such clashes have been amicably settled. About 11 percent (11.3%) of the respondents reported unresolved conflicts in which cases the different parties (the Yoruba indigenes and Fulani) continue to suspect themselves.

Credit facilities

Although 74.8% of the respondents were aware of credit facilities from either government or co-operatives, only 2.3% of the respondents have taken credit from private individuals. Culturally, the Fulani do not practise co-operatives. However, they do assist themselves whenever anyone is in need. Almost all the respondents (98.45%) have reservation for taking government loan mainly because of the absence of required collaterals and the consequences of their inability to repay the loan on schedule.

Identified cattle production and management constraints

About ninety eight percent (98.2%) of the households mentioned inadequate feed (forage) year-round for their stock as the greatest problem. Increased cropping activities have reduced available grazing land. Crop residues are inefficiently utilised. The problem of feed is further compounded by the inavailability and high cost of supplementary

feed.

Disease problem was the second constraint. There is a general absence of veterinary services. There is a poor disease reporting system. There are generally no facilities for the systematic control of ticks. The third major constraint identified was inadequacy of capital to purchase drugs and increase stock population. About ninety-nine percent (98.7%) of the households reported that these constraints were responsible for low milk yield from their cows.

CONCLUSION

The results of the study showed that:

- (i) The agro pastoral Fulani have settled in Ogun State with their cattle (Bunaji and Keteku)
- (ii) There is a growing interest in domestic milk production as an economic activity in the state.
- (iii) The present cattle population in the state (about 30,000) under good management, can meet the milk needs of the populace particularly now that the forest vegetation is giving way to derived savannah vegetation.
- (iv) Improvement in feeding and health management through improved resource base would improve the current level of cattle and milk productivity in the state.

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