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**THE DAIRY COMMODITY SYSTEM OF
THE KISMAYO REGION, SOMALIA:
RURAL AND URBAN DIMENSIONS**

Working Paper

Peter D. Little

Institute for Development
Anthropology

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A. Introduction

This paper discusses the dairy commodity system in the Kismayo region, with a primary focus on exchange relations.¹ Another report highlighted the major inputs to livestock production, which cannot be distinguished by particular product output. The emphasis in this paper is on the marketing rather than production dimensions of the system. Milk is followed through the system at the point of sale, and only rough approximations of total milk sales are made. Market channels for dairy products are less complex than for cattle, since there is no export of dairy products from the region.

The data included in this report are based on a series of herder household surveys conducted by the author. The Afmadow herders sell very little milk and, therefore, the analysis here is restricted to Kismayo herders. In addition, market data were collected from interviews with 38 herder ("nomad") milk traders; interviews with 34 urban-based milk traders; and the monitoring of dairy sales at three urban markets, one in Jamaame and two in Kismayo town. Sixteen observations of the urban markets were made during the period March 1987 to February 1988, with data collection concentrated in the months of July, November-December, and February. These months were picked as representative of three of the four climatic seasons in the region (Xaga, Der, and Jilaal). In addition, less systematic observations of sales and prices were made at smaller centers (e.g., Afmadow town and Cabdulle Biroole) during July 1987 to February 1988. Very little ghee (clarified butter) was sold during these months due to the scarcity of cow milk, so it receives very little attention in this paper.

B. Overview of the Dairy Production and Marketing System

Those herders who supply milk on a regular basis to the urban markets usually reside for most of the year within a 50 kilometer radius of the town. They maintain camels in the herd because they are much more reliable producers of milk than other animals in the region. For example, in comparison to cattle, camels are less affected by seasonal changes in climate and vegetation and, therefore, provide milk on a more regular basis than cattle. In the survey period, 1987 to 1988, no herders in our sample sold cow milk, while 46 percent of camel herders in Kismayo District sold milk during the year. It should be noted, however, that the main goal of milk production is for household subsistence and even among camel herders only a small percentage of total production is sold.

1. Peri-Urban Milk Producers

In the large urban centers, such as Kismayo and Jamaame, a small number of households maintain herds on the outskirts of town to supply milk to urban markets. They usually keep small herds of cattle (10-15) and make purchases of fodder and feed to supplement the scarce natural fodder available in the urban centers. Because they have easy access to fodder markets, they can focus on cattle production with only minimal risk of loss due to lack of natural range fodder. These producers, who are usually women, take their dairy products directly to the urban markets to sell to consumers. Peri-urban producers are not found outside of the three large towns of the region. Even in these towns they account for a small percentage of the total amount of dairy production available for sale (less than 15 percent of total).

C. Marketing

Two important characteristics of the rural-urban dairy marketing system are (1) the virtual lack of scale and wholesaling and (2) the competitive nature of the market. Milk marketing is an extremely disaggregated activity with hundreds of different small-scale traders involved. Even for the largest markets in Kismayo town, there is a virtual absence of any wholesaling activities. Urban-based retailers buy the milk directly from nomads or from traders based in the rural areas. Unlike cattle traders, costs of operation are similar for milk traders, so that there is fairly easy entry for most markets. Because nomad traders can enter the market at any point, the margins of urban-based traders are kept low and competition is very high.

The vast majority of milk sold in the region is consumed in the three large regional towns, Kismayo, Jamaame, and Gelib. Milk traders are found in the smaller settlements, but on a less regular basis depending on the seasonal movements of herds. While milk markets remain open throughout the year in the large towns, in the smaller towns they may close if there are no herds nearby to supply the market. For example, in July 1987 most milk markets in Afmadow settlements were closed because the cattle and camel herds had migrated out of the area. As will be shown later in the paper, the smaller settlements are mainly served by nomadic women who move with the herds and sell milk to settlements located near their encampments. By contrast, the large towns are served by peri-urban producers and urban-based milk traders in addition to nomads, insuring that some supplies are maintained to urban markets throughout the year.

Sour (slightly) camel milk is the product that is available with the most consistency in urban markets. It can be sold up to four days after milking and procured throughout the year, although urban-based traders during the long dry season may use trucks to go as far as Bhadhaadhe District to buy it. The second

most common product available is fresh camel milk, which is available with regularity throughout the year. The other two products, fresh cow milk and sour cow milk, are available in Kismayo market, but are scarce by the end of the long dry season (February-March).

1. Types of Milk Traders

Three types of milk traders are associated with the rural-urban market system in the region. Each of them comprise a certain product niche in the market system. Milk-trading activities at all levels are gender-specific, with more than 95 percent of sampled traders being female. In fact, we were able to find only one milk trader, a rural-based trading partner of an urban trader, who was male.

a. Settlement-based Traders (Abakaar)

Near full-time milk traders (called abakaar) are found in the large urban centers, but not in the small urban settlements. They reside in the large towns and rely on buying milk directly from producers or from trading partners based in rural settlements. On average there are 5 urban-based traders daily at the Jamaame market; 12 at the Suuq Yare market, Kismayo town; and 26 at the Via Afmadow market, Kismayo town. Because they trade milk on a full-time basis, they sell only sour (slightly) camel milk because, as noted earlier, it is available throughout the year. The urban-based abakaar does not sell any other dairy products, but in a few cases may transact grain or a few other agricultural products. Among different traders the abakaar sells the largest volume of milk per week: 179 liters. Frequently nomadic and peri-urban producers/traders outnumber the abakaar at the market, but on a per trader basis they account for considerably less volume of milk sales.

Average weekly net incomes from milk sales is SoSh 672 per abakaar. The recorded range in weekly net incomes is SoSh 140 to 2260, which even at the upper end would not be considered a particularly high income among herders. Highest net incomes are recorded among abakaar at the largest urban market, Via Afmadow, while lowest incomes are found among abakaar at Jamaame market. A relatively large proportion of abakaar traders are female-headed households, either divorced or widowed women, which means that milk sales comprise a large proportion of household income among these traders. Among the sample of abakaar, 41 percent are female-headed households, while the remainder reside in domestic units headed by a male. This is a percentage that greatly exceeds the proportion of female-headed households in the general population, and highlights the economic independence of many urban-based milk traders.

Data on investments among abakaar traders also support the finding that surplus income is minimal, especially in comparison to livestock traders. Only 15 per cent of abakaar own a retail shop and only 3 percent own a second residential unit for rental. By contrast, almost 50 percent of livestock traders in the region own a retail business. Only 5 percent of abakaar indicate that they use revenue earned from milk trading to invest in business activities. The percentage of abakaar, on the other hand, who note expenditures on food and/or clothing as the main use of revenue from milk trading is 86 percent. In short, urban-based milk trading does not appear to be a channel for accumulating high levels of investable surplus. Rather it is an activity that allows a large number of women to be employed, earning income for household subsistence costs.

b. Nomadic Traders

The largest number of milk traders at urban markets are women from herder households. They are the major suppliers of fresh camel and cow milk at the markets. Their number at particular markets vary depending on the seasonal movements of herds in the region. Table 1 shows the extent to which the number of nomad traders, as well as other traders, in the urban markets changes during the year. The changes can occur in very short periods of time, such as took place at Jamaame market in July 1987. During this month, the number of herders selling milk dropped from 100 to 25 in a one week period. The herds migrating from Afmadow en route to the Lower Shebelle had camped near Jamaame for lengths of 4 to 5 days. By the end of July most of the herders had already moved through Jamaame and thus relatively few herder women were selling milk in the town the last week of July. Less drastic changes in the number of nomad traders took place in the other two markets, while across all markets there was a general decline in the number of nomad traders as the dry season progressed.

 Table 1: Average Number of Milk Traders in Urban
 Markets, Kismayo Region

	Jamaame			Suuq Yare/Kismayo			Via Afmadow/ Kismayo		
	Nomad	Abakaar	Peri-Urban	N	A	P-U	N	A	P-U
Jul 1987 (3rd Week)	100	5	10	130	6	10	89	30	14
Jul 1987 (4th Week)	25	5	10	63	16	11	136	30	14
Nov 1987	?	5	?	87	15	10	187	30	25
Dec 1987	42	5	17	50	15	20	57	17	15
Feb 1988	48	3	14	52	10	13	68	23	17

The number of nomad traders in the market is a good indication of the amount of fresh cow and camel milk available at the market. Table 2 differentiates nomad traders according to whether or not they sell camel or cow milk. This table highlights the very significant drop in the number of nomads selling cow milk by February 1988. In the largest market, Via Afmadow, the average number of nomads selling cow milk is only 5 during February 1988, as compared to more than 50 during July 1987. While there is some variation over time in the number of nomadic women selling camel milk, it is considerably below the variation witnessed for cow milk traders.

 Table 2: Average Number of Nomad Traders Selling
 Cattle and Camel Milk, Kismayo Region

	Jamaame		Suuq Yare/Kismayo		Via Afmadow/ Kismayo	
	Cattle	Camel	Cattle	Camel	Cattle	Camel
Jul 1987 (3rd Week)	64	36	30	100	58	31
Jul 1987 (4th Week)	7	18	31	32	45	91
Nov 1987			40	47	66	121
Dec 1987	16	26	19	31	22	35
Feb 1988	11	37	17	35	5	62

Milk transactions by nomads in urban areas are made directly to the consumer and the milk is supplied from the family's herd. In contrast to the abakaar, nomad traders do not have to purchase milk from a supplier, allowing them to avoid middle-person transaction costs (discussed later in the paper) and earn higher

incomes from milk sales. Average weekly incomes among nomad milk traders is SoSh 1963, which is more than double reported incomes among abakaar traders. However, the income of nomad traders is highly irregular because most sell milk only 2 to 3 months of the year. If the intermittent nature of their market activities is considered in calculating weekly incomes on an annual basis, their weekly income is approximately SoSh 500 per week. In addition, unlike the income figures of abakaar traders, this amount is not net of production costs, which have not been calculated for milk production. A general estimate of production costs (exclusive of unpaid family labor) would approach 40 percent of the urban sale price of milk.

The social characteristics of the nomad milk trader are quite different from those of the abakaar. For example, only 13 percent of nomad traders are heads of households, while 25 percent are young, single women who have never married. By contrast, among the abakaar sample there are no young, unmarried women while, as noted previously, a large percentage of abakaar are household heads.

c. Peri-Urban Producers/Traders

This category of urban milk trader has been discussed above and will only be briefly summarized here. Peri-urban milk producers/traders are not found in large numbers, except in Kismayo town where on an average market day 29 can be found at Via Afmadow and Suuq Yare markets. They only reside within the three largest urban centers of the region (Kismayo, Jamaame, and Gelib). Like the nomad producer/trader, they sell their own produce, but, in contrast to the nomad, they sell only cow milk. Because the production and sale of cattle milk is so seasonal among nomads, the importance of peri-urban producers as suppliers of cattle milk to towns increases during the very dry months. As an estimation of total cow milk sales in urban markets, the proportion accounted by peri-urban producers increases from approximately 15 to 37 percent during the period July 1987 to February 1988. The proportion of cow milk supplied by nomad traders, in turn, decreases from approximately 85 to 63 percent during the same period. The decline in the contribution of nomads correlates with the onset of the long dry season, when herders move their cattle to seasonal grazing areas.

Income data are not available for peri-urban producers, since they are less significant in the milk trade than either the nomad or abakaar. Their population in the region is very small, especially when compared to such other livestock producers as herders. They attend milk markets on a more regular basis than nomads, but less consistently than the abakaar traders. Table 1 shows that with few exceptions the daily number of peri-urban milk traders at the market tends to remain within the range of 13 to 17 for Jamaame, 10 to 20 for Suuq Yare/Kismayo, and 14 to 25

for Via Afmadow/Kismayo markets. Volume of sales per day per peri-urban trader is estimated at 5.5 liters per day, which is considerably below average daily sales of an abakaar.

2. Seasonal Variation in Sales and Price

Any estimate of the volume of total milk sales in urban markets should be approached with considerable caution. Table 3 provides the best estimates of total daily milk sales in Kismayo and Jamaame markets, without distinguishing fresh and sour products. The data provide support for the earlier statement in this paper regarding the importance of camel milk in dairy markets, since in the table it accounts for approximately 75 percent of total daily milk sales. The table also shows that in spite of fluctuations in the supply of milk, the total value of daily milk sales tends to be relatively constant, with a daily range of SoSh 231,082 to SoSh 263,266. The largest volume drop in sales of milk occurs for cow milk between the months of November 1987 to February 1988, when dry conditions affected the entire region. As we will discuss below, this period also correlates with the largest rise in prices for cow milk.

 Table 3: Estimated Daily Milk Sales at Urban Markets^a

	Camel		Cattle		Total
	Volume (liter) ^b	Value (SoSh)	Volume (liter)	Value (SoSh)	Value (SoSh)
Jul 1987	2956	195662	938	67604	263266
Nov 1987 ^c	2366	151157	938	79925	231082
Dec 1987	2374	179055	922	76051	255106
Feb 1988	2282	187414	434	46893	234307

^a Includes estimates of sales at Jamaame, Suuq Yare/Kismayo, and Via Afmadow/Kismayo markets. Since data are available only as total amounts for sale rather than actual sales, it is assumed that 80 percent of milk brought to market each day is sold.

^b Based on actual measurements, the average size of traditional milk containers at market is 5.38 liters. This figure is used to estimate volume of sales among nomad and peri-urban traders.

^c Since volume of sales was not recorded in Jamaame in November, the December figures for Jamaame are also used to calculate volume and value of sales for this month.

Figure 1 shows the variation in prices for different milk products at the three urban markets that were monitored. While price increases occur for all products during the survey period, the most dramatic rises are for cow products. For example, fresh cow milk prices rose 47 percent while sour cow milk increased 40 percent, with much of the increase occurring in the November 1987 to February 1988 period. Camel product prices, in turn, increased only 25 percent for fresh milk and 18 percent for slightly sour milk.

The data lend themselves to several interpretations. First, there seems to be considerable substitutability for products among consumers that tends to keep price increases within a certain range. For example, while fresh cow milk prices did rise considerably during the year, the increases are far below the proportionate decreases in the supply of the product. For example, in the largest market, Via Afmadow, the availability of fresh cow milk declined from an estimated 393 liters per day in December 1987 to 129 liters in late February 1988. In spite of a decline in supply of 67 percent, the price of fresh cow milk rose only 28 percent. During the same period of time, supplies of camel milk (fresh and slightly sour) at the market increased an approximate 33 percent and cow milk consumers were able to shift to camel products. In addition, considerable amounts of powdered milk also became available during this period, which is likely to have distorted the relationship between supply and price.

A second important finding of the data is that slightly sour camel milk maintains a fairly constant price throughout the observation period. Because camel milk can be sold up to 3 to 4 days after production, abakaar traders can procure supplies up to 100 kilometers from Kismayo town without spoilage of product. As noted earlier, in February 1988 sour camel milk for the Kismayo market was procured from as far away as Bhadaade District. Truck drivers would go on two-day excursions to Bhadaade to take passengers and to fill up the traders' empty milk containers. In short, even though camel herds move frequently and at considerable distance from major urban centers, traders are able to procure sour camel milk throughout the year. Because the flow of supply for sour camel milk remains more constant throughout the year than the supply of other dairy products, it experiences less dramatic seasonal changes in price. Increases in transport costs seem to be the main factor that boosts the price of sour camel milk, but these are compensated in part by lower procurement prices in the more distant areas.

Figure 1 Average Retail Price for
Milk Products, Kismayo Region

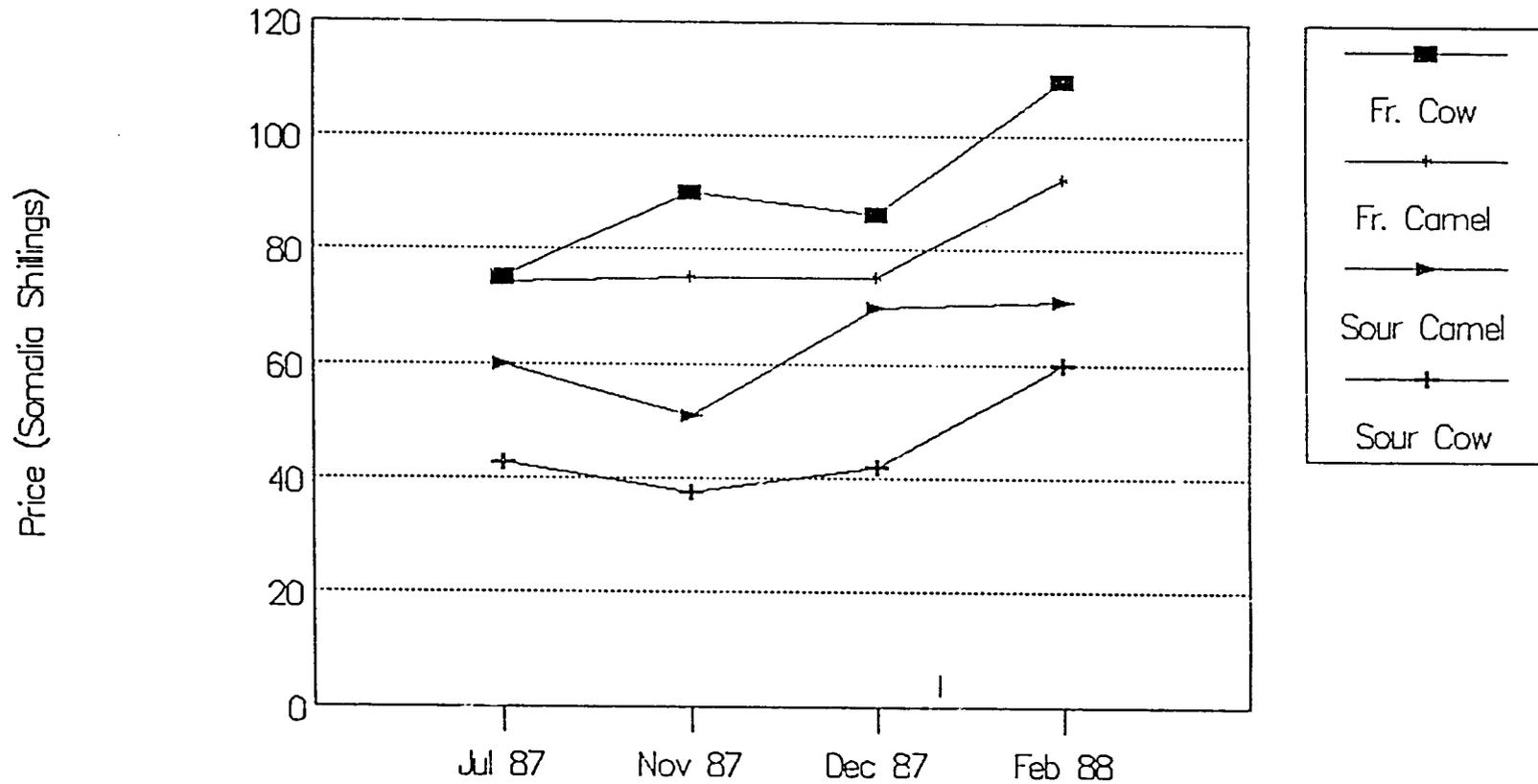


 Table 4: Milk Prices in Small Urban Settlements
 (Somalia Shillings per Liter)

	Cabdulle Biroole		Afmadow	
	Camel	Cattle	Camel	Cattle
Mar 1987	45	NA	75	NA
Jul 1987	60	60	120	150
Nov 1987	45	NA	35	45
Feb 1988	75	NA	45	75

A final point to be made about the price data is the critical roles that urban-based traders (abakaar) and peri-urban producers/traders play in maintaining reasonable prices and supplies of dairy products in urban markets. It is the abakaar that seeks out the supplies of sour camel during the dry season and, as noted earlier, the peri-urban producer/trader is an important supplier of cow milk in the dry season. In smaller market towns, where abakaar and peri-urban traders are not found, price fluctuations tend to be much greater and supplies of dairy products less reliable than in the large towns. For example, market data at Afmadow town and Cabdullah Biroole reveal considerable instability in prices and supply. As Table 4 reveals, fresh cow milk was frequently not available in either Cabdullah Biroole or Afmadow, both settlements located in major pastoral production zones. In addition, the price for fresh cow milk, when it was available, often was well above prices in larger towns, such as Kismayo and Jamaame. These settlements rely almost strictly on nomad milk traders to supply milk and, thus, supply is very dependent on the seasonal movements of herders. If the cattle herds are nearby, as was the case in November 1987 for Afmadow town, cow milk prices are low and supplies abundant. Yet when the herds move out, as they do during the long dry season, prices rise considerably and supplies become unreliable. The demand for milk in Afmadow and Cabdullah Biroole settlements is not large enough to support specialized milk traders and/or peri-urban milk traders and, therefore, milk markets show more instability than in markets where abakaar and peri-urban traders are found.

3. Trader Costs and Returns

The abakaar is the only milk trader in urban markets that usually procures dairy products from another party, rather than selling products from her own herd. While all milk traders incur transaction costs (including taxes), the abakaar's costs are highest because she entails a procurement cost for obtaining the milk. Table 5 shows the costs and returns at different stages in the rural-urban milk marketing chain when both urban and rural-

based abakaar are involved. The figures are based on the sale of sour camel milk in Kismayo market, using an average price for the year and transport costs based on the distance between Cabdullah Biroole and Kismayo.

Clarification of the different costs in Table 5 are required before discussing the results of the analysis. The normal method of transporting milk to the Kismayo abakaar is via Toyota pick-up trucks. Along the main Kismayo-Cabdullah Biroole-Buulo Xaaji road there are three Toyota trucks that operate on average 5 to 6 days per week. They are mainly utilized for transporting passengers, but they also move consumer products, including milk. The urban-based abakaar sends an empty container(s) out with the Toyota pick-up truck every afternoon/evening. On the other end the trading partner picks up the empty container, fills it with milk, and then delivers it back to the Toyota truck driver in the morning to transport to Kismayo. The transport costs per container are different depending on whether or not the container is filled. The average price from Kismayo to Cabdullah Biroole for an empty container is SoSh 1 per liter, rising to SoSh 4 per liter when the container is filled. The transport costs of the empty container are covered by the urban-based abakaar, while the costs of sending a full container are covered by the rural-based trader. When the two traders are in partnership, the costs are evenly shared between them.

The Toyota truck driver/owner, who in all cases is male, assumes an integral role in the rural-urban milk market. He is the main link between the rural and urban-based milk trader, since these traders normally do not travel with their containers. Over time trust is build up and the abakaar does not hesitate to send out her container(s), either full or empty, with the truck driver. As noted above, the truck driver carries passengers and other goods, although in many cases milk is the most significant product (other than passengers) transported. The transport owner is well compensated for his services, accounting for more than 20 percent of the difference between producer and final sale prices and 8 percent of the final sale price in Kismayo. Transport costs account for the largest single cost in the milk marketing chain. This may partially explain why transporters have not entered the milk market themselves to serve as wholesalers. Interviews with different transporters indicated no desire to enter the market as wholesalers for the Kismayo market, although they would be in an ideal position to do so because of their role as intermediaries in the system.

 Table 5: Milk Trader Costs and Returns, Kismayo Town
 Sour Camel Milk (SoSh per Liter)

Item	Amount
Final Price	62.00
Urban Based Abakaar Margin	12.00

Tax / Fee	2.00
Transportation	1.00
Materials ^a	0.23
Loss (5%)	2.55

Sub-Total Costs	5.78
Net Revenue	6.22

Rural Price	50.00
Rural Based Abakaar Margin	12.00

Tax ^b	1.00
Transportation	4.00
Materials ^a	0.23
Loss (5%)	1.90
Labor / Local Transport	1.85 ^c

Sub-Total Costs	8.63
Net Revenue	3.37

Producer Price	38.00

^a Based on purchase of two 30-liter plastic containers per year at a cost of 900 SoSh per container.

^b Assumes that only 50 percent of transactions at this point were made at a settlement where taxes are collected.

^c Represents labor costs to procure camel milk and transport to road where it could be picked up by vehicle.

The costs of nomad milk traders are not included in Table 5, but they nonetheless provide an instructive comparison to the transport costs incurred by the abakaar. Approximately 40 percent of nomad milk traders in the Kismayo - Jamaame area utilize motorized transport to move their milk (and themselves) to market. In contrast to the abakaar, a very large percentage (71 percent) of nomads using motorized transport utilize the services of large lorries, rather than small pick-up trucks. Lorries are capable of carrying up to 40 passengers per

excursion, and the nomad pays for herself and the milk to be transported. In addition to bringing milk to the market, the nomad uses the opportunity to purchase consumer goods in town. When large numbers of nomads and herds are near Kismayo town, approximately 3 lorries operate out of Kismayo town on a daily basis, transporting nomadic women to town so they can sell milk. These lorries do not travel outside of a 30-kilometer radius of Kismayo town. In terms of costs, the nomad milk trader pays a 40 percent higher transport cost per liter of milk than the abakaar, mainly because the nomad also seeks passage. Average transport costs are SoSh 7.23 per liter of milk, which in certain months exceeds 10 percent of final retail prices in Kismayo.

The abakaar uses plastic containers on an average of two per annum, accounting for a small market cost. By contrast, nomadic women and peri-urban producers sell their milk in traditionally-made containers. Another cost that must be calculated is the loss incurred when milk is not sold or spoils. An estimated 5 percent loss of milk to represent unsold milk is used in the table for both the urban and rural-based trader. This is an estimate of milk that is not sold for cash and may eventually be consumed by the trader's family if it is not spoiled. The rural-based abakaar assumes greater risk than her urban counterpart, since she often procures the milk in advance of the arrival of the transport vehicle. If the truck cannot reach the settlement due to an unforeseen circumstance, then she remains with the task of disposing the purchased milk without access to the Kismayo market.

The costs of milk trading are minimal when compared with the costs of entering the livestock trade. Women who often are structurally inhibited from acquiring much family capital and wealth, can enter the market without too much difficulty. Net returns are considerably lower than for livestock trade, but market entry is much easier for milk than for cattle trade. Although it is beyond the scope of this report, there do appear to be social factors that limit the number of women who can become urban-based abakaar. Most abakaar are older women who carefully guard their market share and who have built up urban clientele over the years. A young, inexperienced woman is unlikely to become an abakaar in a large, urban market without some resistance from existing traders.

The urban-based abakaar earns an approximate net SoSh 6.22 per liter of sour camel milk sold, which is 10 percent of the final sale price. The rural-based abakaar, in turn, earns a net SoSh 3.37 per liter, which is approximately 5 percent of the final sale price. The herder receives SoSh 38 per liter or 61 percent of the final retail price. The margins of traders are relatively low and represent a market environment where considerable competition exists. While returns on investment seem adequate for milk traders, they remain relatively small-

scale and earn only minimal levels of cash for investment.

D. Summary and Discussion

In sum, this paper has shown that:

-- the regional dairy trade is oriented strictly toward regional markets, with no export of products taking place;

-- the three large towns of Kismayo, Jamaame, and Gelib, account for most purchases of milk in the region;

-- camel milk accounts for approximately 80 percent of milk sold, and shows less instability in supply and price than cow milk;

-- in spite of large volumes of dairy sales, the rural - urban milk market lacks bulking/wholesaling and has very high levels of competition;

-- the largest towns in the region have specialized milk traders (abakaar) and peri-urban producer/traders that fill important niches in the market that are not served by nomadic milk traders.

The rural - urban milk market demonstrates the important linkages that are maintained between regional towns and their rural hinterland. In contrast to the livestock trade, the smaller towns play only a minimal role in dairy trade and producers are almost completely dependent on large centers to market their produce. Such towns as Bilis Qooqani and Libooye provide small markets for milk and unlike the cattle commerce are not transshipment points for the dairy trade. The perishability of dairy products greatly limits the participation of remote settlements in the rural - urban dairy trade. In addition to providing markets, the large towns supply important transport services to milk traders and producers.

The rural - urban milk trade does not allow considerable accumulation among traders, most of whom are women. It does, in the aggregate, however, generate considerable revenue and, unlike the cattle trade, most of this income remains within the Kismayo region. A comparison of the regional economic benefits of milk verses cattle trade, with a breakdown among different sectors, will be the focus of future publications.

NOTES

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