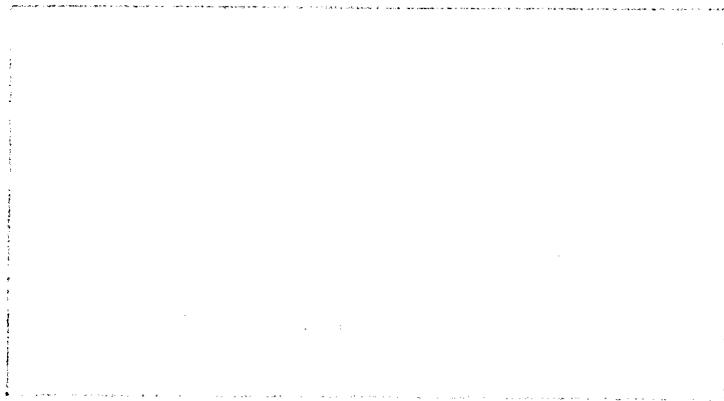


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THE CATTLE COMMODITY SYSTEM  
OF THE KISMAYO REGION, SOMALIA:  
PRELIMINARY ANALYSIS

Working Paper

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## A. Introduction

This paper examines the rural-urban production and exchange systems associated with cattle production in the Kismayo region of southern Somalia.<sup>1</sup> The analysis in this report is limited to live animal sales, while a future report will deal solely with dairy production and marketing. Cattle were chosen for the study because they are a commodity produced both for local consumption and for export. They also are the most important agricultural commodity in the region. Because of the variability in production and marketing systems, careful attention is given to locational and ecological variables. The analysis starts with a discussion of pastoral household production systems, in order to establish a context for the commodity-based analysis.

The production and expenditure data presented in this paper are derived from surveys of 88 herder households in the region. Locations of field sites were in southern Afmadow District, between Afmadow town and the Descheeg Waamo, and in Kismayo District around the settlements of Yağ' sharo and Beerxaani. The Afmadow sample comprises 42 households, while the Kismayo sample is 46 households. Because of difficulties associated with collecting data from mobile herders, certain surveys were limited to smaller samples. The size of samples are indicated in each of the tables presented in this report.

Field sites were selected to represent the major cattle/camel production systems in the region and to reflect different spatial relations to the major urban center, Kismayo. The Afmadow location was picked because of its historical importance as a center of cattle production in the region. It is a major source of cattle for all the major markets in the region. The Kismayo locations, in turn, are centers both for camel and cattle production, and are also within the urban "milk shed" of Kismayo town. In contrast to Afmadow herders, Kismayo producers are close enough to provide milk to the major consumption market, Kismayo.

The marketing data presented in this report are derived from several sources. These include (1) the information on herder sales based on the household surveys; (2) data gathered from interviews with 25 livestock traders in the region; and (3) the sales and price data collected by the USAID-funded Livestock Marketing and Health Project (LMHP). It should be noted that LMHP had market enumerators in four market towns in the region--Libooye, Bilis Qooqani, Afmadow, and Kismayo--and through a formal "letter of agreement" we had access to these data.

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## B. Production System and Household Economy

The average size of the pastoral household in the study region is 9.07. The domestic unit is not stable and divides up during certain times of the year, depending on the labor and grazing demands of the herd. For example, among herder households in the region 21 percent are split up during part of the year. In households with mixed cattle and camel herds part of the family frequently breaks off to herd the camels. The grazing and water requirements of cattle and camels vary considerably, accounting in part for the segmentation of households during the year. The distance between different herding units of the same domestic unit can be more than 100 kilometers.

### 1. Mixed Herding Strategies

Most households combine at least some goat and sheep production with cattle and camel raising, and certain households combine cattle and camel herding. Specialization in the production of particular animal types occurs most frequently among cattle producers, especially those of Afmadow District. An estimated 38 and 3 percent of herder households, respectively, specialized in the production of cattle or camels. In the region, more than 90 percent of herders own cattle, 50 percent own camels, 34 percent own goats, and 14 percent own sheep.

Table 1 demonstrates that there are considerable differences in herd size and composition among households in Kismayo and Afmadow Districts. For example, the average size of camel herds in Kismayo District is more than tenfold larger than those of Afmadow herders. Afmadow herders, in turn, own considerably larger cattle herds (average of 74.74) than households of Kismayo District (average of 42.98). Neither of the districts contains large numbers of goats and sheep (8.26 in Afmadow and 6.59 in Kismayo).

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Table 1: Average Herd Size and Composition Among  
Herder Households

Livestock	Kismayo District (n=46)	Afmadow District (n=42)	All (n=88)
Cattle	42.98	74.74	58.14
Camels	22.37	1.73	12.52
Sheep/Goats	6.54	8.26	7.36

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## 2. Distribution of Livestock Ownership

Herder households of the Kismayo region display considerable variation in the ownership of cattle and camels. These discrepancies are important to note and provide a better indicator of welfare levels than does a focus on statistical averages. Figures 1 and 2 show the range and distribution of cattle and camel ownership. Each group represents 11 herder households, or 12.5 percent of the sample, and the stratification is by number of animals owned. The figures reveal considerable inequities in animal wealth among herders, especially regarding camels. One Kismayo herder, for example, owns more than 25 percent of all camels in the sample of 88 herders. The richest 12.5 percent of camel herders own 70 percent of the camels in the region; while almost half of the herders own no camels at all. It should be noted, however, that more than 90 percent of camels in the study area are from Kismayo District. If herder households of Afmadow District, who own very few camels, are excluded from the calculation of camel ownership, then distribution becomes more equitable. Analysis of camel ownership restricted only to Kismayo District reveals that 12.5 percent of herders own an estimated 52 percent of camels.

The ownership of cattle in the region is not as skewed as this, but considerable discrepancies do exist. Thus, 12.5 percent of the herders in the sample own 39 percent of total cattle, with the bottom 50 percent of cattle herders owning approximately 15 percent of the herd. The inequities displayed in animal ownership in the Kismayo region are not unusual for pastoral economies (Little 1984; 1985). In terms of rural-urban exchange, the significance of the pattern of ownership is that (1) wealthy herders tend to have access to larger traders and more lucrative markets; (2) wealthy herders have greater involvement in nonfarm (town-based) economic activities; and (3) consumption and expenditure patterns of large and small herders differ. These issues are addressed in subsequent sections of the report.

## 3. Herder Incomes

The vast majority of household income (79.4 percent of total) among herders derives from animal sales, with income from milk sales and nonfarm activities accounting for 6.8 and 13.4 percent, respectively (see Table 2). The highest income earning households usually have access to nonfarm sources of income and some are also part-time livestock traders.

Figure 1 Cattle Herd Distribution By Household, Kismayo Region, 1987 – 1988

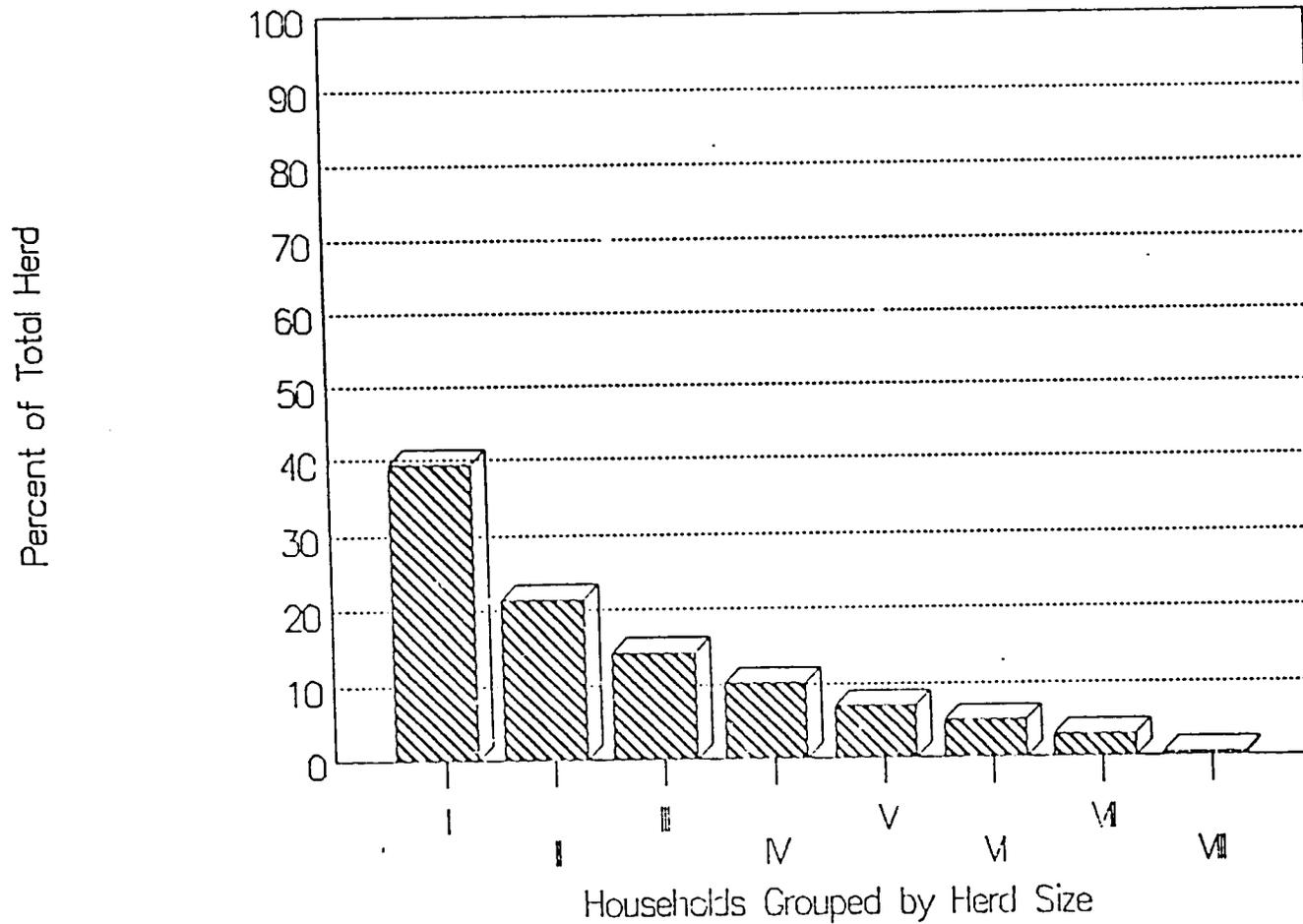
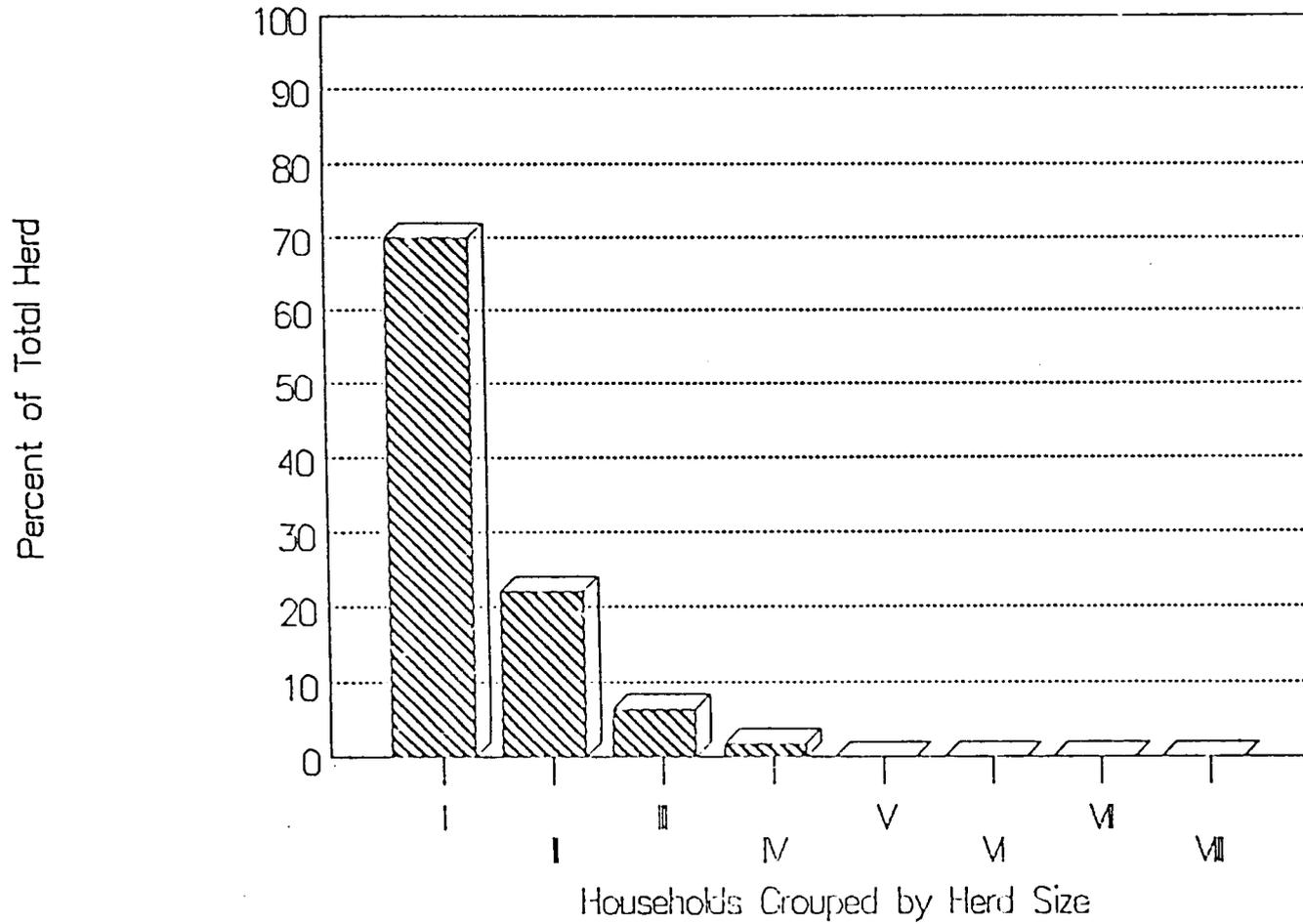


Figure 2 Camel Herd Distribution By Household, Kismayo Region, 1987 – 1988

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Levels of income derived from animal sales may have been exaggerated during the survey year (1987-1988), because of the severe climatic/drought conditions. During periods of hardship, herder demand for cash to purchase alternative foods is high, and thus they are likely to sell a larger proportion of their animals. In addition, the involvement of a few herder households in livestock trading also inflates the contribution of livestock sales to household income. For example, one herder household involved in trading was buying and selling more than 100 cattle during the year, which is almost 900 percent above the level of annual sales among herders. Nonetheless, when discounting such cases where herders are also part-time traders, livestock sales still account for close to 70 percent of average herder incomes. It should be noted that the pattern of livestock sales witnessed in 1987-88 are unsustainable over the medium to long term because the high offtake jeopardizes the capacity of the herd to reproduce itself.

The drought conditions of 1987-1988 that resulted in higher levels of animal sales by herders had an inverse effect on milk sales and income. In years of drought income from milk sales are low due to poor productivity of dairy animals and the increased proclivity of households to consume what is produced. While it is unclear how much herder income is derived from milk sales in non-drought years, the level of sales are likely to be higher than in 1987-1988.

In examining cash incomes among herders in the region, it is important to note that animal production is considerably more commercialized than milk production. During a twelve-month period of 1987-1988, herder households marketed approximately 12.4 cattle and 1.86 camels through market sales and 2 cattle and .25 camels through own consumption. The percentage accounted by market sales for cattle and camel is approximately 80 percent of the total number of animals culled from the herd during the year. By contrast, less than 20 percent of milk produced from herds is sold at markets, the bulk of it being consumed by household members. In nomadic areas farther away from the markets of Kismayo and Jamaame, the proportion of milk sales is considerably less. Very few herders outside of a 100-kilometer radius of Kismayo region sell milk. The perishability of milk products requires herders to have relatively good access to town markets, where most of the demand exists.

Cash incomes among herders in the region show considerable variation. The range in incomes vary, in part, according to size of herds, since animal sales comprise the bulk of herder incomes. While average (gross) household incomes exceed SoSh 195,000 per annum, 35 percent of households have annual gross cash incomes of less than SoSh 80,000. By contrast, 6 percent of households earn more than SoSh 400,000 per year.

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 Table 2 Composition of Gross Annual Income Among  
 Herder Households

Source	Amount (Somalia Shillings)	Percent
Livestock Marketing Income	156564	79.4
(Cattle)	(117972)	(59.8)
(Camel)	(35364)	(17.9)
(Sheep/Goats)	(3228)	(1.6)
Milk Marketing Income	13452	6.8
Agricultural Income	702	0.4
Other Income	26532	13.4
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<b>TOTAL</b>	<b>197250</b>	<b>100.0</b>
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#### 4. Nonpastoral Activities

Many herder households in the Kimsayo region practice some form of agriculture in years of adequate rainfall. In the area, 55 percent of the herder sample practice dryland cultivation, with the average size of farm being 2.17 hectares. No herders in the area have access to irrigated land, but those of Afmadow do cultivate recession lands near Descheeg Waamo. There is a slightly greater tendency for herders in Kismayo District to farm (67.4 percent of total), than there is among pastoralists in Afmadow District (40.5 percent of total). No herder had a harvest during the long rains (Gu season) and only 2 percent of herders had a harvest (of sesame) in the short rains of 1987. Herder attitude toward dryland agriculture is casual, and even during good rainfall years production is low. Only four percent of herders in 1987 had adequate supplies of grain for consumption nine months after the abundant harvest of 1986.

Very few members of herder households participate in wage earning activities. As shown above, herder incomes are well above those of farmers and the necessity to participate in wage labor activities, to supplement household incomes, is minimal. Only 4.5 percent of households had a member(s) employed in wage earning activities. The majority of those employed for wages work either as hired herders (22 percent) or for a retail business (56 percent), and they tend to be among low to middle income earners. The vast majority of wage earners are employed

in the Kismayo region (89 percent), rather than elsewhere in the country.

Investment in nonfarm activities is minimal, with only 11.6 percent of households investing in nonfarm enterprises. There is a greater tendency for herders in Kismayo District to have nonfarm investments, than there is among Afmadow herders. Table 3 correlates types of nonfarm investments and/or activities by different income categories. The most common forms of nonpastoral investments are in town houses, and retail stores. The majority of retail store investments are in rural villages, while investment in housing tends to be in Kismayo town. Eighty-two percent of households who own a retail store are in the highest income category, as are 64 percent of those who own urban houses. More than half of the herders who have nonfarm investments, have more than one. Clearly the lower income households are only minimally involved in nonfarm investments, although they are most likely to be engaged in wage employment off the farm.

### C. Cattle

As noted above, more than 90 percent of herder households raise cattle in the region. Sales of cattle contribute more than 60 percent of total household cash income, and also provide a significant proportion of subsistence income. Cattle production is frequently combined with the production of other animal species, particularly sheeps and goats. It is carried out by independent families, who during certain times of the year combine with other units to take advantage of economies of scale in herding. There is a large amount of labor sharing among herder households. No commercial ranches or other large-scale production enterprises are found in the livestock sector of the Kismayo region.

An earlier report of mine outlined the major seasonal movements of cattle herders and herds in the region (Little 1985). The 1987 season was unusual in that herders moved their cattle out of the Kismayo region to grazing areas in the lower Shebelle region. In most years, herders of Kimsayo and Afmadow Districts migrate northwards toward Kenya and the Jira plains, retreating to the Descheeg Waamo, the coast, and the Juba riverine area during the long dry season (Jilaal). Access to riverine areas is increasingly problematic in the Lower Juba region due to the proliferation of large-scale irrigation projects and the recent expansion of irrigated banana plantations.

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 Table 3      Type of Nonfarm Investment/Activity by  
                   Income Category  
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Gross Annual Income	Retail Store	Urban House	Other <sup>a</sup>	Wage Labor
Low 0 - 80,000	1	3	1	4
Middle 80,000 - 200,000	1	1	2	3
High 2000,000 +	9	7	1	1

<sup>a</sup> Includes bank accounts and other miscellaneous investments.  
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### 1. Inputs

The costs of inputs per herder household are listed in Table 4. These include only costs that were procured for cash (or in a few cases by livestock exchange) and do not include, for example, unpaid family labor. They are disaggregated on a seasonal basis, since there are considerable differences in the use of inputs by season. For example, both fodder and water costs increase considerably during the dry season, while the use of hired labor seems to decline.

It is difficult to break down the costs of inputs per different animal type in the table, since the major inputs are combined across different herds. For example, some veterinary medicines are used both for cattle and camels and it is difficult to disaggregate the data by animal type. Labor also is moved among different herds, which at certain times of the year may be combined. Only where labor is hired is it possible in some cases to breakdown the cost of labor per animal type.

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 Table 4 Input Costs of Livestock Production  
 by Season, 1987-1988

Input Items	Wet Season Sh/Month	Dry Season Sh/Month	Annual Sh/Year
Hired Labor	484	278	4572
Veterinary Drugs	624	654	7668
Water	255	446	4206
Fodder		908	5448
Herd Capital <sup>a</sup>	2264	1348	21672
<b>TOTAL</b>	<b>3627</b>	<b>3634</b>	<b>43566</b>

n = 100

<sup>a</sup> Includes purchases of all livestock types.

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a. Labor

The major input to cattle production is labor, which is provided predominantly by the family. Only 20.4 percent of herder households hire labor, to assist in cattle herding. The average herder household spends approximately 381 shillings per month on hired labor (including the cash equivalency of payments in animals). In the majority of cases, payment for hired labor is made in terms of livestock units, rather than cash. More than 60 percent of households that hire herders pay them off in payments of cattle. The usual payment is a 2-3 year old bull per herder per six month period. In terms of the cash equivalency of the transaction, this converts to a wage of 1167 SoSh per month. Hired labor is procured predominantly from the pastoral areas.

b. Fodder

Fodder for cattle production is predominantly provided by grazing of natural range. In only 6 percent of households was fodder purchased during the year, taking place in the long dry season period (Jilaal). Fodder purchases are limited to herders of Kismaayo District, who have relatively easy access to urban markets where fodder is sold. In the past dry season, they purchased maize stalk to feed cows and calves, which were

kept near homes in villages or towns. The fodder sold to herders comes mainly from Jamaame District, and is the only input the agricultural sector provides to livestock production.

### c. Water

Water is another essential input to cattle production. Cattle are watered daily in wet season months and every two days in dry season months. During the short and long rains, herders water their cattle from seasonal ponds, swamps, and other depressions that store surface water. This water is procured free of charge. In dry season months, herders in the region use water from five different sources. These are boreholes, surface dams, wells, concrete storage tanks (called barkad), and the Juba river. With the exception of communal wells and the Juba river, user fees are usually charged for the use of the other water sources.

The majority of households purchase water for their cattle during dry season months (59 percent of total). In the study region, the most common source of water purchases are the government-owned and operated boreholes. They account for approximately 90 percent of water purchases, with sales from surface dams and barkads accounting for the remainder. The Kismaayo region contains several government boreholes. Boreholes are located in urban centers (e.g., Afmadow) or in rural settlements whose population fluctuates greatly depending on whether or not the borehole is open. The boreholes are closed in wet seasons, when surface water is available. During March 1987 to March 1988, boreholes were opened for all but approximately 3 months of the period because of drought. This explains why even in June/July 1987 (the so called "wet season") households were purchasing water for their cattle (see water costs data, Table 4).

Thirty-two percent of herders in the region own a water point. Among those who own water sources, 68 percent have a surface dam/pond (called War), while 29 percent own a well. Approximately half of the surface dams in the areas were built during 1981-1987, when the Trans-Juba project operated a construction unit for water development. The remaining approximate 50 percent were hand dug, which can take several years to complete. The Trans-Juba project charged herders up to 100,000 SoSh to construct a surface dam of approximately 30 x 30 meters. They used bulldozers and other earth-moving machines to construct the water point, which took about 2-3 days to complete. Under protests from local herders and goverment, concerned by the increased concentration of water points in the area, the project halted operations in 1987.

Table 4 does not estimate the costs of water from privately owned sources, unless transactions for the water took

place during the year. Insufficient data do not allow calculations of annual or seasonal costs of water for herder households who own their own surface dams.

Private wells are constructed by hand and many of the present owners inherited them from their fathers. Use of these wells in principle is restricted to family members and kinsmen, but in practice other herders frequently utilize them free of charge. The person(s) who construct(s) the wells can claim ownership as long as s/he is using it. These wells often are very shallow (3-4 meters) and produce water of dubious quality. In the study region, the majority of them are located near the coast or along the fringes of Descheeg Waamo or of seasonal rivers.

The government boreholes charge an official price of 60 cents per cattle (in 1987). In theory, the rates tend to be almost twice as high, with the actual costs among our sample of herders being 1.1 SoSh per head. Operators insist that they need to charge an additional fee in order to pay for fuel and maintenance costs, which are not always provided by the Water Development Authority. At surface dams or storage tanks herders are charged usually on a seasonal or monthly basis, the price being dependent on the number and mix of animals. Thus a herder might be charged at a particular surface dam 6000 SoSh per long dry season (approximately 3 months) to water a combined herd of cattle and camels.

In sum, the herders in this region depend most on government boreholes as a source of water in the dry season. They expend considerable revenue to water their cattle at these points. The fees collected at the boreholes are under the control of the Water Development Authority, although as mentioned above the borehole operator may retain a portion to purchase additional fuel and maintenance services. The provision of fuel and maintenance for boreholes are provided solely by the larger urban centers of Kismayo and Gelib, or, in some cases, by Mogadishu.

#### d. Veterinary Inputs

Serious animal disease problems exist in the Kismayo region. In particular, the presence of trypanosomiasis in the region accounts for the large amount of herder expenditures (639 SoSh per month) on veterinary drugs. Drugs that are most frequently purchased are for the prevention of trypanosomiasis, which accounts for more than 70 percent of veterinary purchases by households. Afmadow herds are more vulnerable to animal disease than those of Kismayo District, and thus expenditures for veterinary drugs in the district tend to be slightly higher than in Kismayo. In comparison to other purchased inputs, a very high proportion of households--75 percent of total--

purchase at least some veterinary inputs. Herders usually administer the drugs themselves, which usually come in capsule or powder form. Forty-four percent of households own syringes, utilizing them when injections are required.

The Veterinary Department is officially responsible for the distribution of all veterinary drugs in the region. The Department's regional office in Kismayo town has overall responsibility for distributing the drugs to the districts. The drugs all come from Mogadishu and except for a few vaccines all the drugs are imported from overseas or from elsewhere in East Africa. Each of the four districts in the Lower Juba Region has a district veterinary officer, who is responsible for drug distribution in his district. The entire region is poorly supported by the Mogadishu headquarters, receiving only 4000 SoSh (approximately US \$40) per annum to purchase fuel and maintain vehicles.

While the private sale of veterinary drugs is illegal, there is a considerable amount of it taking place in the region. The topic is obviously controversial and data on the subject is difficult to collect. A large amount of veterinary drugs come into the region unofficially from Kenya, but the actual amount is difficult to estimate. These are then sold directly to herders by traders and shopowners. Other veterinary drugs also seem to leak into private channels, where they also are sold directly to herders. Among those herders who purchase veterinary drugs 77 percent claim that they procure them more frequently from private than from government sources.

The spatial dimensions of the veterinary drug trade seem to be similar for both private and official markets. In both cases, Kismayo and the other district towns, such as Afmadow and Jamaame, are the most reliable sources of veterinary supplies. The location for purchases of veterinary supplies does vary according to seasonal herd movements. The one exception seems to be syringes that are almost always purchased in Kismayo town (more than 80 percent of total purchases) rather than in smaller towns or settlements. Table 5 shows that in the wet season most veterinary purchases are made at Kismayo town, even for herders of Afmadow district.

The importance of Kismayo in the veterinary drug trade declines in the dry season, when cattle herds are congregated in the Descheeg Waamo area and around the major boreholes. At this time purchases are made at smaller, seasonal watering places, such as Boka, Bibi, and Mido (Table 5). Kismayo town accounts only for 30 percent of veterinary purchases in dry season months, whereby it accounts for 76 percent in wet season months. The appearance of a Kenyan town, Halugo, in Table 5

indicates that certain herders are purchasing veterinary supplies directly from Kenya.

e. Animal Capital for Herd Reconstitution

The purchase of animals for breeding and herd reconstitution is an important input to cattle production. Herders frequently make purchases of young bulls and breed cows during the year, in order to insure the reproduction of the herd, to compensate for animals sold, and to maintain/fatten for future sale. Even at market towns a certain proportion of cattle are purchased by producers themselves, rather than traders.

The 1987 to 1988 period was not a good time to observe herder purchases because of the prolonged drought conditions. Most herders were reluctant to purchase herd capital, when their existing animals were already stressed. Indeed the severe conditions resulted in decapitalization of the herd, especially of females, rather than selective buying to upgrade the herd. Less than 10 percent of households purchased livestock (including cattle) at all during the year. Purchases of cattle represented net increases to the total herd of less than 2 percent. Annual sales of cattle, in turn, averaged 12.4 animals per household, representing an offtake rate of 21 percent. This figure is well above the rate of natural reproduction for the herd and reflects the severe drought conditions. As noted earlier, these conditions are responsible for the abnormally high number of cattle sales by herders.

Herders frequently acquire access to cattle for production/ reproduction purposes through nonmarket transactions. The loaning and borrowing of cattle is widespread in the Kismayo region, with townsmen frequently loaning out their cattle to herders in the rural areas. The terms of livestock loans vary, but usually the loanee is responsible for its care, while he can use the milk or, if it is a male, utilize the animal for breeding purposes. More than 26 percent of the herders in the region have either loaned or borrowed cattle from another household. The average loan is 7 cattle and these animals are kept in the recipient's herd. It should be noted that nonmarket transactions of cattle are an important linkage that binds together urban and pastoral households.

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 Table 5      Location of Veterinary Purchases by Herders  
 (Percentages)

Location	Wet Season 1987	Dry Season 1988
Afmadow	11.11	19.32
Beerxaani		6.82
Bibi		4.55
Boka		3.41
Buulo Gaddud		1.14
Buulo Xaaji		6.82
Cabdulle Biroole		5.68
Halugo	3.70	
Jamaame	3.70	17.05
Kismayo	75.93	29.55
Mido		3.41
Yaq Bisharo	5.56	2.27
<b>Total</b>	<b>100.00</b>	<b>100.00</b>

## 2. Markets

Cattle marketing in the Kismayo region is complex and is differentiated by four major channels. These different markets vary in importance by season and by location within the region.

### a. Market Channels

**Kenya Trade.** The first, and currently most important market for the region, is the Kenya trade. Since the Saudi Arabian ban on the import of Somali cattle, Garisa, Kenya has become the most important market for the region's cattle. During nine months in 1987-1988, the Kenya market accounted for an

estimated 23 percent of cattle sold in four market towns of Kismayo and Afmadow Districts (see Table 6). Of these market towns, Afmadow and Libooye are clearly the most important for the Kenya trade. Kismayo town does not play a role in the Kenya trade, as indicated by the virtual absence of Kismayo cattle for the Kenya market. At Libooye and Afmadow markets, 32 percent of cattle sold in 1987-1988 were destined for the Kenyan cattle market.

Traders are cautious about discussing the Kenya trade because it is not officially sanctioned by the state. Nonetheless, 29 percent of middleman traders in the region indicate that they sell cattle to Kenya. The trader and market center data show that traders are selling all age and sex categories of cattle, and thus unlike the overseas export trade it is not restricted to males (4-7 years old). The Kenya market, however, does reveal seasonal characteristics, with almost no sales occurring to Kenya during the first six months of 1987 when drought conditions inhibited cattle movements to Kenya. Cattle must be trekked more than 200 kilometers from locations in Somalia to the closest major town, Garisa, passing through areas where water and grazing are very sparse in the dry season.

The Kenya trade involves at least two levels of transactions. There is the initial sale by the herder to a middleman and then the second stage is when the middleman resells it to a larger trader. This trader either takes the animal directly to the Garisa market or resells it to a Kenyan trader, who then treks the animal to market. In most cases, the Somali exporter has an informal trading arrangement with a Kenyan trader, who helps him market the animal in Kenya. On the Somali side, the trade involves merchants residing only in the Kismayo region. Traders from Mogadishu and elsewhere in the country are not involved.

Traders indicate several advantages to the Kenya trade, in comparison to other market options. First, the trade earns a relatively stable currency, the Kenya shilling, which in a 12-month period alone (March 1987-February 1988) increased 29 percent in value over the Somali shilling. In March 1987 the exchange rate was 1 Kenya: 8.5 Somali shillings, while in February 1988 it was 1 Kenya: 11 Somali shillings. The profits to be made on the devaluation alone are considerable. For example, a Somali cattle worth 2,750 Kenya shillings (23,375 SoSh) in March 1987, returned 6,875 SoSh more when marketed for the same price in February 1988.

A second advantage to the Kenya trade is that livestock merchants can use Kenyan shillings to purchase Kenyan goods and resell them in Somalia, or sell the currency to Somali importers. Consumer items found in Kenya are often either

unavailable or available at high prices in southern Somalia. Livestock traders will usually sell the currency to a Somali importer, who then uses the currency to purchase Kenyan goods. While precise statistics are not available on this trade, informal discussions with traders indicate that sales of Kenya cattle generate much of the currency for the import of Kenyan goods.

A final advantage of the Kenyan market for merchants is its proximity to major cattle producing areas of the Kismayo region. In terms of distance, the Garisa market is only marginally further (e.g., 50 kilometers) from parts of Afmadow District than are most regional market towns, while it is considerably closer to cattle producing areas than is the national market of Mogadishu. In Bhadaade District, Lower Juba region, the Kenyan market centers are actually closer than the Kismayo regional market for most cattle producers. Because of its close proximity to Kenya, traders of the Kismayo region frequently have Somali relatives and associates in northeastern Kenya, who facilitate their access to Kenyan markets.

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 Table 6 Destination of Cattle Sold in Kismayo Region<sup>a</sup>

Destination	No. of Cattle	Percent
Afmadow	94	11.30
Bilis Qooqani	13	1.56
Export <sup>b</sup>	30	3.61
Garisa	193	23.20
Kawaan	20	2.40
Kismayo Town	186	22.36
Mogadishu	129	15.50
Other	167	20.07
<b>TOTAL</b>	<b>832</b>	<b>100</b>

<sup>a</sup> Based on analysis of market data collected under the USAID/ Livestock Marketing and Health Project.

<sup>b</sup> Includes cattle destined for export holding grounds such as Laheley.

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**Kismayo Urban Market.** The urban market of Kismayo is the second most common destination of cattle sales in the region. Based on the market town data approximately 22 percent of cattle sold is destined for the Kismayo market. The cattle market of Kismayo is mainly oriented toward local consumption in Kismayo. An estimated 53 percent of cattle sold at the Kismayo market are transacted directly to butcheries for slaughter. An estimated 15 to 20 percent of purchases at Kismayo market are made by herders and/or traders who are rebuilding herds.

A proportion of sales at each of the regional market towns ends up for local consumption in Kismayo town. Cattle destined for the Kismayo market tend to be slaughter animals and, relative to other markets, low value cattle (see Table 7). Old cows and bulls make up a large proportion of the animals destined for slaughter in Kismayo. Some purchases at the Kismayo market are of younger stock for rebuilding/breeding, but the vast majority are animals for local slaughter. Among the different markets in the Kismayo region, the Kismayo town market reveals the most constant level of monthly sales throughout the year. In contrast to other markets, it is mainly oriented to local consumption and, therefore, not subject to the seasonal swings in demand that the export markets experience.

It should be noted that a relatively large proportion of transactions occurring at the Afmadow, Bilis Qocqoni, and Libooye markets are for breeding and rebuilding herds. These purchases are frequently made directly by herders at the marketplaces or by traders who maintain large herds in the area. In Table 6 those purchases that are not for immediate sale are represented by the "other" and "Afmadow" categories. These cattle may eventually be sold to Kenya, Kismayo, or elsewhere, but in the interim are being kept in the herds of producers and/or traders. Thus, the regional market towns serve as channels for consumption, export, and for acquiring herd capital to replenish herd stocks.

**Mogadishu Market.** The Mogadishu market is the third most important outlet for Kismayo cattle. It accounts for an estimated 16 percent of cattle sold in the Kismayo region. Prices in Mogadishu, which has an urban population in excess of 700,000, are more than 30 percent higher than those of Kismayo. The average prices for selected months of Kismayo regional markets and the Mogadishu market are presented in Table 7. Original data are broken down by different age and sex categories of animals, but in order to simplify analysis this table includes aggregated data. The results of interviews with local traders of Kismayo also reveal the importance of

Mogadishu. Based on these interviews 53 percent indicate selling cattle in Mogadishu during the past 12 months.

Table 7 Average Cattle Prices in Mogadishu and Lower Juba Markets, 1987-1988<sup>a</sup>

	Mogadishu	Afmadow	Bilis Qooqani	Libooye	Kismayo
Jan 87	10694				
Feb 87	11455		8446		
Mar 87	12289	9075	6344	10272	
Apr 87	14819	9576	7184	13277	
May 87	17267	13811	7077		9500
Jun 87	16251	10158			9217
Jul 87	15183	5463		5458	7880
Aug 87	15583		3310	10995	8627
Sep 87	16763	12089		8660	9581
Oct 87	16069	12189	12430	14072	11446
Nov 87		15274			12078
Dec 87		13959	9175	10069	9154
Jan 88		10349			9077
Feb 88		6851			8900
<b>Average</b>	<b>14502</b>	<b>11338</b>	<b>9402</b>	<b>9978</b>	<b>9636</b>

<sup>a</sup> Based on analysis of market data collected under the USAID/Livestock Marketing and Health Project.

The Mogadishu trade mainly involves the regional market towns of Afmadow and Kismayo. To a lesser extent Bilis Qooqoni participates in the trade, but rarely are Libooye cattle exported to Mogadishu. Traders associated with the export of Kismayo cattle to Mogadishu are either from the region or from Mogadishu. The initial transaction in the market is made between herder and a middleman, who then resells the animal to a trader who treks it to Mogadishu. This trader is usually from the region, but in some cases a Mogadishu merchant will come to the region to purchase cattle. He moves the animal to Mogadishu, where he or an associate sells it at one of the city markets. Rarely are cattle trucked to Mogadishu, rather the local method of trekking on foot is used to cover the 600+ kilometers.

The Mogadishu market absorbs both male and female cattle, with the emphasis on slaughter animals. Most of the animals are destined for town butcheries and, thus, in contrast to the Kenya trade, there are few young cattle being sold for breeding or for herd rebuilding purposes. The Mogadishu market maintains a relatively constant demand for slaughter animals, although there tend to be periods of high demand around religious holidays. While time series data are unavailable, it appears that the importance of the Mogadishu market for the Kismayo region has grown in recent years, due both to the rapid population increase in Mogadishu and to the collapse of overseas markets for cattle. It is likely, therefore, that since 1983 the gap between prices of cattle in Mogadishu and in Kismayo has widened.

**Overseas Export Trade.** The overseas trade out of Kismayo port is both the most volatile and selective of the potential markets. In the past, it was clearly the most important market for cattle in the area, but in the past year has absorbed considerably less numbers of animals than the other three markets. When it is operating and overseas demand is good, it injects a considerable amount of revenue into the regional economy. Unfortunately, it has been on a downswing in the past five years and this is not solely due to the loss of the Saudi Arabian market. From 1986 to 1987, cattle exports from Kismayo declined from approximately 21,000 to 4,168, making it relatively insignificant in our study year. The last quarter of 1987 had no exports of cattle or any other animal. The first quarter of 1988, however, showed promise, with exports reaching 3,100 cattle, but the pace of exports was still well below previous years. It should be noted that many purchases of export cattle are not made in market towns and, therefore, this market is underrepresented in Table 6.

Cattle exported from Kismayo currently go either to Egypt or to the Yemen Arab Republic (YAR). Trade to Egypt is carried out under a bilateral agreement with the Egyptian government that expires in 1988. Under this arrangement, the Egyptian government agrees to buy a certain number of cattle during a certain period of time. The current pact called for approximately 30,000 cattle for 1986-1988, a level that it was likely to reach in early 1988. In 1987, exports of cattle to Egypt accounted for 35 percent of total cattle exports. As of February 1988 only 1550 cattle remained to be exported under the Egyptian trade pact.

The trade to YAR, in turn, accounts for 65 percent of cattle exports, a proportion that has grown in the past year, as the Egyptian agreement neared completion. Cattle exports to YAR are not governed by a bilateral agreement, rather it is strictly up to the export trader to arrange his own trade

arrangements. There is only one company, the Teysiir Company, that exports cattle to YAR.

The export trade in Somalia is controlled by Government Law Number 13 (established 1986) that requires export traders to form companies. The three most important export companies participating in the Kismayo trade are Teysiir, Tawfiq, and Al Hilaal companies, the latter focusing in Kismayo predominantly on camel exports. These companies have more than 30 members each, with Tawfiq being the largest. The companies act more like trader associations, requiring members to pay initial fees and providing minimal services to its members. While the companies are supposed to act as corporate entities that share in profits--relative to the number of shares purchased by individual members--they are usually dominated by a relatively few large traders. For example, the Teysiir company's exports to YAR are mainly those of one large trader, who has offices both in Mogadishu and Kismayo. The large traders depend on the company to arrange the letter of credit with the bank and the shipping services, which the export trader pays for, and then exports the cattle under the company's name. Thus, exports of cattle under a company's name are usually those of a few prominent traders, rather than of a corporate group.

The overseas export trade differs from the other markets described above in several respects. First, export traders and companies are frequently based out of Mogadishu rather than Kismayo. Among the 58 registered livestock export companies in Somalia none of them indicate Kismayo as their headquarters. Interviews with individual export traders show that approximately 20 percent of export traders participating in the Kismayo trade are from the region, with the remainder being from Mogadishu. Even among those export traders residing in Kismayo, all maintain residences and offices in Mogadishu. The most commonly stated reasons for basing export companies out of Mogadishu are: (1) the easier access to banking facilities, which tend to be minimal in Kismayo; (2) the better communication facilities in Mogadishu, especially for establishing overseas market contacts; and (3) the larger number of investors in Mogadishu, who hold company shares in export companies.

A second important distinction from other markets in the region is the selectivity of the overseas export market. The overseas market buys only male cattle between the ages of 4 to 7. It does not buy older animals nor does it import females, which under Somali law is illegal because of its effect on herd growth. The selectivity goes further in distinguishing only the largest of these male animals; that is, those that exceed 300 kilograms liveweight, which is at least 20 percent larger than average liveweight of cattle in the region. In short,

unlike the Kenya trade the overseas export trade is oriented strictly toward the highest quality beef animals.

A third major departure is the lack of reliance on local market channels for procurement of cattle for the overseas export trade. Virtually no purchases of export cattle are made at the Kismayo town and only a small percentage of purchases at other market towns are for the overseas trade. Instead, export traders have their own chain of middlemen who procure the cattle for them, often buying the cattle directly from smaller middlemen. A large export trader will have as many as 40 middlemen working part-time for him, procuring export-quality animals throughout the year. Except for the largest producers, most herders will not deal directly with an agent of an export trader. Middlemen working with an export trader are frequently provided credit to purchase cattle, and may only receive full payment for sale after the exporter has received his revenue.

A fourth difference with other markets in the region is the necessity for a holding stage for export animals in the market chain. Approximately 8 weeks prior to the expected date of export the export trader usually places the cattle in the holding ground at Haglibaar, 65 kilometers northwest of Kismayo. The cattle are kept there to graze on pastures that are restricted solely for export animals. The trader is charged a fee of SoSh 1.50 per day for watering and grazing costs. At Haglibaar the animals are able to put on weight faster than if grazed on open pastures.

Three to four weeks prior to the export date the cattle are moved to the holding/quarantine facilities at Lahaley, about 15 kilometers outside of Kismayo. There they are vaccinated, provided with dip facilities, and kept in quarantine for a period of 21 days. The actual vaccines provided depend on the health requirements of the importing country, but almost always include at a minimum an inoculation against foot and mouth disease. The costs of these vaccines are provided free of charge, but the trader incurs the costs of watering, dipping, and grazing the cattle while in quarantine.

Two days prior to the export date the cattle are moved to a stockyard near the Kismayo port, where they are kept before final embarkment. The cattle are fodder-fed and watered, which are costs that are covered by the export trader. If the boat is delayed at all, the trader incurs additional costs keeping the animals fed on purchased fodder. Most traders are very cautious about moving the animals to this final staging point, until they have accurate information from Mogadishu of the boat's exact arrival time. Miscalculations can lead to exorbitant costs, since the daily fodder costs exceed 200 SoSh per animal.

The costs and capital requirements of the overseas export trade, including the costs of the different stages in the export chain, are final points that distinguish it from alternative markets. Only large-scale traders can participate in the export of cattle, with most owning some facilities, such as trucks and water tanks. As we will discuss in a later section, the costs of market transactions exceed several thousand shillings per animal, which is well in excess of the transaction costs of other market channels. Unlike the small and medium-scale traders in the region, the export trader is strictly specialized.

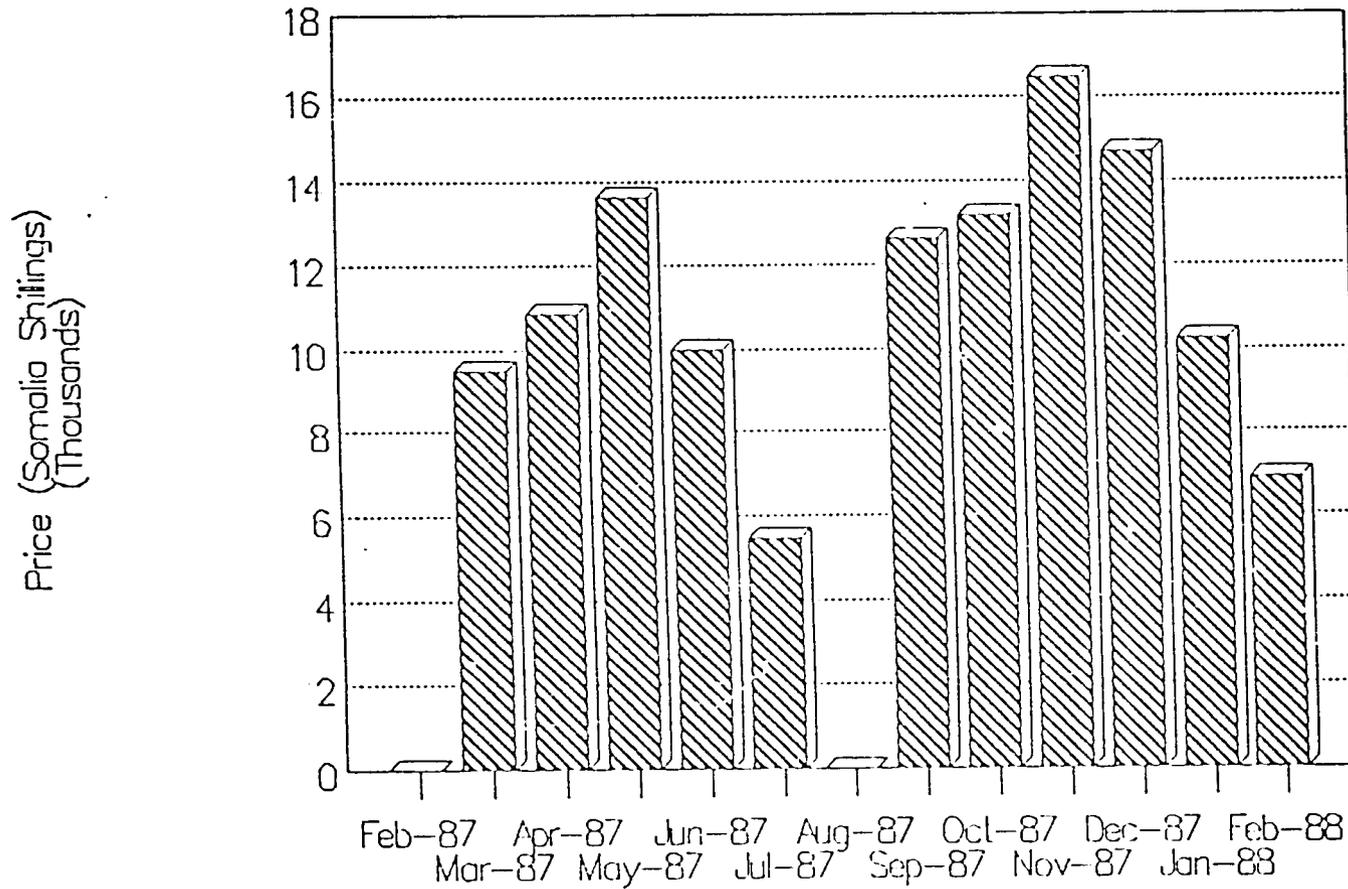
#### b. Price Relationships in the Region

The significance of the Kenya market in the region affects the spatial dimension of cattle prices. Table 7 shows that in the Kimsayo region market towns, such as Libooye and Afmadow, located near Kenya have higher prices than in Kismayo town (also see Table 8). When climatic conditions are favorable and the Kenya market is open, cattle prices at the border (Libooye) tend to be higher than elsewhere in the region. For example, in October to November 1987 when the volume of exports to Kenya was high, Libooye prices were 10 percent higher than in Afmadow and more than 20 percent higher than Kismayo prices. The latter market, Kismayo, because of its orientation toward low-value, local consumption markets has the lowest average prices in the region. It should be noted that cattle prices in Afmadow generally stay high because it is a major center in the high-valued markets, including the Mogadishu, Kenya, and overseas markets.

Prices for cattle show considerable variability during the year, with the lowest prices occurring during dry months. Cattle lose weight during the dry months, and herders, often desperately in need of cash to buy food, flood the market with cattle in poor condition. These factors, coupled with the dry-season slowdown in the export trade (both to Kenya and to overseas markets), result in severe price fluctuations during the year. Cattle prices in one market center, Afmadow, drop from the wet to dry season by as much as 50 percent (see Figure 3). The same general pattern is displayed in the three other major market centers, although less severe seasonal price changes occur at Kismayo market, where demand for animals for local consumption remains relatively constant throughout the year. These seasonal fluctuations in price increase the economic vulnerability of herders, especially the poorer ones, but they also allow for considerable profit making by those traders who are able to make speculative purchases in the dry season.

Figure 3 Cattle Prices By Month

Afmadow Market



Cattle prices differ by age and sex category, as well as by final destination of the animal. The lowest cattle prices occur for animals that are oriented for the domestic regional market. Average producer prices of cattle for this market is SoSh 9,639. The second lowest producer prices occur for animals destined for the Mogadishu market. The average price for these tend to be SoSh 10,620, while the animals for the Kenya market fetch an average price of SoSh 16,000. Highest producer prices are for export (overseas) quality bulls that receive SoSh 19,000.

Prices that are given in Table 7 for the regional markets are not accurate indicators of producers prices. Price data collected at the household-level reveal average prices that are approximately 15 percent below market town prices. What is the reason for the discrepancy? The best explanation is that initial transactions for most markets in the area occur in the "bush" or in very small settlements. Based on the herder surveys it is shown that the vast majority of initial sales between herder and middleman take place in rural areas rather than in market towns. Transactions at market towns usually represent a second transaction in the chain, that between middleman and larger trader. It should be noted that at this level many of the sales may be by part-time middlemen/herders, who are more involved in livestock production than trading.

Prices are generally low throughout 1987 and early 1988 due to the region's drought conditions and the lack of overseas markets. Although the overseas market is very selective and less important in terms of volume than the Kenya trade, it does favorably influence producer prices. Yet it seems to have had little influence on prices in 1987, due to the low volume of exports. For example, average prices of cattle in February 1988 are actually lower than prices in February 1987, in spite of an approximate 29 percent devaluation of the Somalia shilling and an annual inflation rate of around 20 percent. In short, herders are in considerably worse economic shape in 1988 than in 1987, which in itself has not shown signs of being a particularly good year.

### c. Traders

A critical element in the cattle marketing system is the trader who mediates between the producer and external markets. This is the most complex component of the system to generalize about because of the variation in scale and roles among different cattle merchants. As indicated above, export traders are usually very large-scale, while other traders may account for no more than 20 cattle sales annually. Certain traders, especially in the major market centers, serve only as brokers (called dilal) who match buyers with sellers and charge a percentage (usually 2.5 percent) of the sale price for their service. As with most commodity market systems, the level of

competition among traders diminishes further up in the market chain: in the case of the Kismayo region two traders accounted for approximately 50 percent of cattle exports in 1987. More than 50 percent of traders are specialized in buying and selling of only one animal type. In interviews with 27 traders, 30 percent traded both cattle and camel, 39 percent traded only cattle, 13 percent traded only camel, 4 percent traded cattle, camels, goats, and sheep, and 13 percent traded in all animal species.

**Brokers.** Cattle brokers are found in each of the major market towns and are registered with the local government. They provide a market service to buyers by directing them to potential sellers and negotiating a price for them. Frequently they will organize a formal auction and call out prices for the animal being sold. It is the broker that guarantees to the buyer that the animal is not stolen and is the property of the seller. The broker is usually from the local area and knows the herders and townsmen very well. Cattle traders have built up over the years strong associations with certain brokers, using them predominantly for procuring animals. Brokers do not buy and sell animals themselves rather they charge a certain percentage (2.5 percent) of the sale price to the buyer for finding a seller willing to dispose of an animal at an agreeable price. While the charge seems exorbitant for the limited services provided, traders in towns almost always utilize a broker for procuring cattle. It is a way of sanctioning the sale and providing a measure of insurance that the animal is not stolen. The number of brokers in a market varies according to its size, with the largest number of brokers being in Kismayo and Afmadow (in excess of 15 in each).

**Middlemen/Local Traders.** The scale of middlemen's enterprises varies considerably, depending on whether or not they are agents of large export traders. Approximately 60 percent of middlemen say that they are part-time buying agents for at least one overseas export trader. Middlemen frequently cooperate with two or three other traders, pooling resources and assisting each other with purchases. Seventy-one percent of middlemen claim that they have associations with other middlemen, with some of the relationships enduring several years. The larger middlemen buy from smaller middlemen and then either sell directly to export traders or to urban-based butchers. These larger traders are likely to be directly involved in at least one of the export trade channels. Among the larger middlemen, who handle more than 250 cattle per year (six out of 17), 83 percent are involved in either the overseas and/or Kenya export trade.

**Export Traders.** As indicated above, the overseas export traders frequently are not from the Kismayo region and operate procurement systems outside of normal market channels. Those

who do reside in the area live in Kismayo town, the only regional center that provides some of the required banking and communications facilities. Export traders involved with the Kenya trade, in turn, are from the smaller towns, such as Libooye, Afmadow, and Bhadaade. The logistical requirements for this trade are minimal, differing very little from the export of animals to Mogadishu or any other domestic market. As will be shown below, there are greater transaction costs incurred with the Kenya trade than is the case for domestic trade, but they are considerably below those for overseas export trade. In short, the Kenya export merchant is not likely to be any different than other local traders in the region, and is likely to orient a portion of his business toward regional and national domestic markets. By contrast, the overseas export trader differs considerably from other traders both in terms of the scale of enterprise and the specialization in one market.

The overseas export trader also is buying cattle throughout the year, but he restricts purchases of large numbers until he has a definite market agreement specifying volume and date of export. Since letters of credit from the Somali Commercial Bank are granted only for six months, the export trader can not pursue too much speculative buying prior to export. When the merchant receives information on a definite export date and an agreed upon number of cattle, then large-scale buying begins. Individual traders frequently have allotments in excess of 1000 cattle that they have to meet within a 4 to 6 week period. Despite the lack of external markets, the trader frequently cannot make the required allotment because time constraints are too restrictive and cattle may either have migrated away from the main centers or, such as in 1987, may be in very poor condition. The export trader, therefore, does not have sufficient time to procure the required cattle. With time limitations on the letter of credit, it is difficult, costly, and risky to procure large numbers of export quality animals several months prior to export. In recent years, traders have depended on buying cattle from the Lower Shebelli to meet gouta levels.

#### d. Costs of Trading Operations

Previous discussion in this paper pointed to the high transaction costs incurred with the overseas export trade and other costs involved with sale for other markets. The costs of livestock traders differ markedly from other commodity traders because they incur production costs, as well as transaction costs. The livestock trader usually maintains a herd for at least part of the year, incurring production costs similar to those of other livestock producers. While exact figures are not available, a certain percentage of cattle herds kept on the range belong to traders, who have hired local herders to manage

them. The average size of traders' cattle herds in the region are 45. During drought years, such as 1987, the production costs of the trader's enterprise is especially high because considerable care and inputs have to be allotted to maintain animal quality and adequate size.

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 Table 8 Costs Incurred by Livestock Traders (Somalia  
 Shillings per Animal)

Expenditure Items	Overseas Trade	Kenya Trade	Mogadishu Trade	Kismayo Town Trade
-----				
Traders				
-----				
Water	180	90	45	90
Local Transport	200	300	663	
Vet Costs	100	34	30	60
Hired Labor	450	271	135	200
Fodder	150	200	100	25
Feed Related Costs	1000			
Risk / Loss	690	1050	261	265
Broker Fee	140	525	326	265
Tax / Fees	591		438	
Credit	445	600	300	
Insurance	534			
Ship Agency	630			
Port Charge	10			
Kenya Tax		688		
Market Broker Fee	575			
Association Fee	100			
Quarantine/Holding Fee	840			
Communications	500			
Trucking Costs	1000			
-----				
TOTAL TRADER COSTS	8135	3758	2298	905
-----				
Middlemen				
-----				
Water	90	90	90	NA
Fodder	50	25	25	
Tax	575	525	266	
Risk / Loss	570	480	212	
Broker Fee	475	400	266	
Vet Costs	60	60	60	
Hired Labor	405	405	405	
-----				
TOTAL MIDDLEMEN COSTS	2225	1985	1324	
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Table 8 indicates the costs incurred by traders in the exchange of one head of cattle. The table distinguishes the costs according to the four different markets discussed above. Some explanation of the costs listed in the table is required.

Traders rely almost solely on hired labor to herd their animals, which is in stark contrast to the pattern among herders (see earlier discussion in Section A). Among middlemen, 94 percent hire labor during the year with 24 percent hiring laborers on a permanent basis. The average number of employees (temporary and permanent) per middleman is three. Among overseas export traders, in turn, 100 percent hired labor and 75 percent employed permanent workers. The average number of employees (temporary and permanent) per export trader is 19.

Traders also rely either on their own privately owned water sources or purchases of water from the government boreholes. They do not usually water their animals at communal wells owned groups of local herders. Among the sample of traders, several owned their own water source, with one person owning his own water truck.

Local government charges a 5 percent tax on cattle sold at the market, an expense that is incurred by the seller. Since the same animal often is transacted at least twice before export or final sale, middlemen often incur tax costs. The middlemen prefer to transact sales away from markets, so as not to incur taxes and broker fees. The advantage to the seller of taking the animal to the market is that competition is likely to push the price higher than it would be in rural areas.

The table demonstrates the range of costs that are incurred by the overseas export trader. In virtually every category--water, veterinary inputs, labor, etc.--per unit costs are higher than for other markets. In addition, several costs are incurred that are required by the state, but do not apply to the sale on other markets. The costs for the export trader are based on holding the animal for 3 months prior to sale, but in many cases longer periods are required. For example, in 1987 most traders kept cattle for at least 5 months prior to export, because of the lack of markets in the last quarter of the year. There is one camel exporter in Kismayo who has had 200 animals awaiting export for more than seven months. Trader costs for the Mogadishu and Kismayo market are based upon a holding period of one month, while the costs for the Kenya trade are based upon a two-month period. Costs of all trading operations, especially for overseas export traders, increase considerably if animals are held for several months prior to final sale.

Transport costs are incurred by traders for each market depending on the distance and time of the year. Animals are usually trekked on foot to markets, often travelling more than 400 kilometers. In a few cases, there is trucking of cattle from the Kismayo region to the Mogadishu market, at an average cost of 850 SoSh per animal. In addition there was movement of cattle by trucks in the drought of 1987 by export traders avoiding large animal losses. However, these are exceptions to the norm, which is the local method of trekking by foot. Traders usually hire 3 to 4 herders per 100 cattle to move them, with additional herders being employed in very dry months when grazing and water are scarce.

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 Table 9 Trader Margins and Net Returns

	Overseas <sup>a</sup> Trade	Kenya Trade	Mogadishu Trade	Kismayo Town Trade
-----				
Traders				
-----				
Final Price	38000	30000	17500	10592
Purchase Price	(23000)	(21000)	(13029)	(8820)
Trader Margin	15000	9000	4471	1772
Trader Costs	(8135)	(3758)	(2298)	(905)
Net Return	6865	5242	2173	867
As Percent of Final Price	18.07	17.47	12.42	8.19
-----				
Middlemen				
-----				
Selling Price	23000	21000	13029	NA
Purchase Price	(19000)	(16000)	(10620)	
Middlemen Margin	4000	5000	2409	
Middlemen Cost	(2225)	(1985)	(1324)	
Net Return	1775	3015	1085	
As Percent of Selling Price	7.72	14.36	8.33	

<sup>a</sup> Based on Stockton report (1987:89) and field data collected under the SARSA study.  
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A final point about the costs of trading operations is that, similar to any livestock enterprise, risks of animal loss/death are relatively high. While much lower than the risks for the herder (see Table 7), there is a likelihood that the animal being kept in the herd will die during the year. The high incidence of disease in the region makes the risk of loss about 7 percent to the herder, but around 2 to 3 percent for the trader. The Kenya trade is considerably riskier than other markets, because of widespread cattle theft and banditry in the northern portion of the country. The Somali-Kenya trade must traverse this area en route to the Garisa market.

#### e. Trader/Market Margins

Trader margins increase as the animals are transacted through the system, with the smaller middlemen, who buy directly from the herder accumulating net returns usually less than 5 percent of final sale price; while overseas export traders earn net revenues equivalent to 18 percent of the final price. Trader margins are calculated in Table 9, showing the breakdown of prices at different transaction points and the net returns to traders. As indicated above, trader costs (and returns) are calculated based on an assumption of holding the animal for 2 to 3 months prior to sale. This holding period can vary drastically and affect the rate of returns to traders.

The international markets (overseas and Kenya) are based on slightly different criteria. The final price used to calculate the mark-ups in the Kenya trade are average prices at Garisa, as indicated by Somali traders. In the overseas case, the price used to calculate margins was the F.O.B ("freight on board") price in Kismayo harbor, rather than the wholesale price in Yemen or Egypt, which was not obtainable during the research period. Based on data collected by Holtzman in the early 1980s, it can be expected that the wholesale price in the importing country is between 25 to 30 percent higher than the F.O.B price in Kismayo (Holtzman 1982). The sale prices for the Kenya, as well as the Mogadishu, trade were traced to the importing areas because Kismayo traders participated and shared in revenue at this level. By contrast, Kismayo traders did not participate in the overseas commerce after the F.O.B. point, and thus it was felt unnecessary to trace prices into the importing countries. The Kismayo domestic market price is based on the wholesale price to local butchers.

The largest net margins take place with the overseas export trade, followed closely by the Kenya trade. Trader margins tend to be considerably lower for the Mogadishu

and Kismayo town markets. It should be noted that market margins for all international trade are dependent on exchange rate values. The overseas trade is based on a conservative rate of SoSh 120 = \$1.00, which is 20 percent above the official rate in February 1988 but only half of the free market rate. Stricter government enforcement of exchange rate policies in 1987 and 1988, requiring the trader to remit half of his sales revenue at a rate of SoSh 99 = \$1.00, makes the conservative rate appropriate. As indicated in an earlier section of this chapter, the Kenya exchange rate is based on a figure (10 SoSh = 1 Ksh) slightly below the current informal rate.

The lowest mark-ups occur in the regional market, which is based predominantly on sale of low value animals for local consumption. These animals receive the lowest prices and have a market only in the Kismayo region. They are not of adequate quality for export to any of the other markets. The final price used for these calculations are based on sale prices in Kismayo and Afmadow town markets. The final retail price for beef in Kismayo is estimated to be about 25 percent above these prices, but have not been used for these calculations. Trader costs for the regional domestic market are well below those for other other markets, but net returns are also considerably lower. The producer price is 83 percent of the town market price and about 67 percent of the final retail price in Kismayo. The low prices in this market mean that herder revenue from this trade is considerably lower than for other markets, but that they receive a considerably higher percentage of the value of the final price. Unlike other markets the herder usually sells directly to the trader, rather than transacting through middlemen/smaller traders.

The margins of middlemen vary according to the different markets, but they tend to be highest for the Kenya trade. This explains why most local traders in the Kismayo region are currently favoring the Kenya trade, although they often are reluctant to talk about it. Middlemen, acting between a Kenya-based trader and the producer, can earn net revenues equivalent to 10 percent of the sale price in Kenya. Because the Kenya trade is so lucrative for local traders, they are directing most of their cattle toward the Kenya market rather than other destinations. This phenomenon coupled with the general decline in overseas markets makes it very difficult for export traders, whose profits have declined precipitiously in recent years. If the Kenya market remains stable, export traders are going to face difficulties in redirecting the cattle trade toward Kismayo port.

The profit margins of export traders have been severely affected by the general stagnation in international prices for cattle. The current F.O.B. price of \$950 per liveweight ton is approximately the same price traders received for exports to Saudi Arabia in 1983. While international prices for live animals have increased little over the past five years, the costs of inputs and market transactions have grown rapidly. Among the four major markets discussed in this paper, the export trade has shown the greatest demise, and the Kenya and Mogadishu markets have revealed the greatest potential. The producer benefits when all four markets are operating well, since it drives up local prices. Yet it is the Kenya and Mogadishu trade that involves the greatest number of regional traders, not the overseas trade.

#### D. DISCUSSION AND SUMMARY

This paper has analyzed the commodity system associated with cattle production and marketing. It has shown that herder households are not specialized cattle producers, rather they are involved in the production of other animal species and, in some cases, agricultural crops. Among wealthier herders urban-based investments in retail activities and housing are not unusual. The analysis shows that the major forward linkage in the commodity system is the sale of live animals, especially to markets outside of the region.

Analysis of the cattle commodity system shows that many of the critical exchanges occur within the existing rural-urban exchange system. Local towns, with the exception of Kismayo, consume very little of local cattle production. Market towns assume more importance as transaction points in the Kenya and Mogadishu trade, rather than as centers of final consumption. Smaller centers such as Libooye and Afmadow are more important for the Kenya trade, while Kismayo is the center for the overseas export trade.

Two of the most important inputs to cattle production are obtained locally. This is fodder, which is obtained from natural range, and labor, which is mainly supplied by the household. However, most of the purchased inputs to cattle production originate outside of the region, or involve equipment that is imported from elsewhere.

The towns in the region do assume considerable importance in the distribution of veterinary drugs and some significance in the supply of water. Purchases of veterinary drugs are made at the larger towns, such as Kismayo, as well as at smaller centers such as Afmadow.

Veterinary drugs are the major urban-based inputs that are provided to herders. Small settlements such as Bibi and Cabdulle Biroole/ Yaq Bisharo are also watering points for herders, providing a critical input for cattle production. The repair and maintenance of these boreholes occur in the larger urban centers of the region. The analysis in this report shows that the use of urban centers, either to purchase veterinary drugs or water, varies during the year according to the movement of herds and people.

#### NOTES

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