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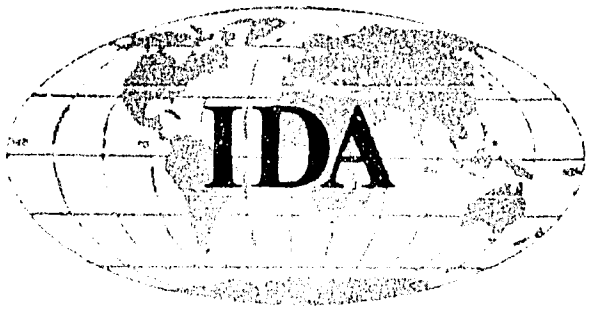

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THE LIVESTOCK SECTOR OF THE KISMAYO REGION, SOMALIA: AN OVERVIEW

Working Paper

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A. Introduction

This paper provides an overview of the livestock sector in the Kismayo region, southern Somalia.[1] It discusses the sector's importance to the regional and national economies; the physical resource base of pastoralism in the area; the different livestock production systems in the region; the major support institutions; and the macro-policy environment that affects livestock production and marketing. The analysis of secondary data in this paper is based on a region covering the Lower Juba Region and Jilib District. By contrast, the analysis of herder household data is restricted to the southeastern portion of Afmadow District and the eastern section of Kismayo District, where household surveys were conducted. The discussion in this report provides a context for subsequent analyses of livestock-related activities in future publications.

B. Regional Contribution to National Economy

The livestock sector in Somalia is the largest source of foreign exchange earnings in the country. It is estimated that over the last 15 years it has earned on average 70 to 90 percent of total foreign exchange earnings (Janzen 1988:6). The largest component of this sector is the export of sheep, which accounts for approximately 75 percent of livestock earnings. The export of cattle, in turn, accounts for approximately 22 percent of earnings, while camel exports comprise about 3 percent of the sector's earnings. In national terms, the Kismayo region accounts for an estimated 13 to 15 percent of the livestock sector's foreign exchange earnings. Since 1982 the Kismayo region's contribution to national livestock earnings has declined by almost 50 percent. The reasons for this decrease are discussed later in the paper.

The Kismayo Region contains the largest number of cattle of any region in the country, as well as a sizeable number of its camels. Available data on regional and national livestock numbers are presented in Table 1, showing that approximately 25 percent of the national cattle herd are in the study region. The proportion of other animals in the region are insignificant, except for camels which comprise 3.5 percent Relative to the small percentage of the country's total land area (approximately 7 percent of total), the proportion of the national cattle herd in the Kismayo region is very large. Within the region, Afmadow and Bhaaadhade Districts are the largest cattle-producing areas. Among a sample of herder households in Afmadow District average cattle holdings exceed 70.

Livestock numbers seem to have stabilized in the region during the past 5 years, but prior to this there was a rapid

expansion of herds, especially those of cattle. The growth in regional herd size is related to: (1) large growth in human population due in part to immigration of herders (and herds) from elsewhere; (2) the development of export markets for cattle; and (3) the development of additional water points in the region. It is estimated that from 1952 to 1983/84 regional herds of cattle, camel, goats, and sheep grew annually at a rate of 7.9, 5.2, 5.6, and 2.2 percent, respectively (Hendy et al. 1985:100). At this rate of annual growth herds of cattle and camel doubled approximately every 9 years and 13 years, respectively. This growth is not evident in the present decade. Comparisons of livestock census data in the 1980s show that very little increase in total herds and flocks has taken place in the past 8 years (Hendy et al. 1985:100).

Table 1 Livestock Population (000)

	Kismayo Region[a]	National	Kismayo As % of National Herd
Cattle	1,100.00	4,463.76	24.64
Camel	214.61	6,073.31	3.53
Goats	229.76	18,870.69	1.22
Sheep	57.04	11,246.82	0.51

Notes:

[a] Includes Afmadow, Badhaadhe, Jamaame, Jilib and Kismayo Districts. The estimates are based on Murray Watson's figures for 1983/84, adjusted by 10 percent for cattle and camels to account for herd growth. Estimates for Jilib District are based on Huntings Technical (1975) and Watson's estimates. Finally, national herd estimates are based on Janzen (1988).

The contribution of the Lower Juba's livestock sector to the Somali national economy is revealed in three activities. First, is the export of live animals, especially of cattle and camels, from the region to international markets. As mentioned above, Kismayo does not export many sheep and goats, and, therefore, only marginally contributes to national foreign exchange earnings. Nonetheless, the Kismayo region is a key actor in the country's exports of cattle and a less important component in the export of camels. In the latter, Kismayo accounts on average between 20 and 25 percent of annual camel exports. Table 2 shows the contribution of Kismayo to the overseas export of cattle over the period, 1980-1987. As the table shows, in certain years Kismayo accounts for up to 50 percent of the country's cattle exports. The table also demonstrates the devastating effect that the Saudi Arabian ban on cattle imports from Somalia has had on

both national and regional exports. For example, cattle exports from Somalia declined from over 150,000 in 1982 to less than 10,000 in 1984. The import ban was imposed in 1983 and is still being maintained by the government of Saudi Arabia. With the imposition of the ban on cattle exports, the contribution of the Kismayo region to national foreign exchange earnings dropped considerably.

Table 2 Cattle Exports[a]

	Kismayo	National
1980	24,374	85,000
1981	31,889	116,000
1982	51,011	157,000
1983	7,246	44,000
1984	600	7,700
1985	26,213	42,000
1986	25,000 (Est)	55,800
1987[b]	4,168	27,900

Notes:

[a] Based on Holtzman (1982), ISTI (1986), Cassam (1987), and on data from USAID / Livestock Marketing and Health Project.
[b] January to June only.

Table 2 does not account for unofficial exports of cattle to Kenya, which since 1983 have grown rapidly. It is estimated that in 1987 the number of cattle exported to Kenya was approximately 40,000, of which the Kismayo region accounts for 75 percent of the total. While the Kenya trade does not earn hard currency for the economy, it earns Kenya shillings that can be used to import Kenya goods, such as tea and coffee. In 1987 the Kismayo region earned more than three times as much income from the Kenya trade in cattle, than it did from overseas exports.

A second livestock-based activity of the region that contributes to the national economy is meat processing. The contribution of this activity, however, has declined precipitously in recent years. During the period of field research (March 1987 to February 1988), the goverment-managed Kismayo Meat Factory was not open and over the past four years (1984-87) it has operated on average less than three months per year. In the period 1977 to 1987 annual earnings from the export of canned meat dropped more than tenfold. In the 1980s alone the number of cattle annually slaughtered at the Kismayo Meat Factory declined from 16,237 (1980) to less than 2,000

(1987-88). When Somalia had preferred access to the Russian and eastern European markets, exports of canned meat were an important component of national exports. In the mid-1970s the export of meat (mostly from the Kismayo region) accounted for 6.4 percent of total export earnings; while currently it contributes less than .5 percent to annual export earnings.

The export of hides and skins is a third livestock-based activity in the Kismayo region that contributes to national income. Similar to the meat processing facility, the Kismayo tannery, which is also owned and managed by the government, has declined in importance and operates on an intermittent basis. The tannery relies heavily on supplies of hides from the Kismayo Meat Factory, being unable to procure hides from local herders because of the low prices they pay; the prices paid by their procurement agency, the Hides and Skins Agency, are less than one-fourth prices of hides and skins in neighboring Kenya. When the meat factory is not opened, the tannery consequently is not functioning or is operating at a low level of capacity. The Kismayo tannery has an annual processing capacity of 125,000 cattle hides and 375,000 goat and sheep skins, but currently is processing only 22,000 cattle hides and no goat and sheep skins per annum. The total annual value is approximately SoSh 24 million (or $242,424 at official rate of $1 = 99 SoSh). It should be noted that virtually all hides processed in 1987 came from Mogadishu due to the reluctance of local herders to sell to the Hides and Skins Agency. In the surveys of herder households in the region, no sales of hides and/or skins are recorded.

In sum, the three livestock-based activities that contribute most to Somalia GNP--live animal exports, the Kismayo Meat Factory, and the Kismayo Tannery--have all experienced rapid decline in the 1980s. The export of live animals, which have been reduced due to a Saudi ban on imports of Somali cattle, holds the most potential for improvement. However, most of the increase is likely to continue to be in the form of unofficial exports to Kenya, which do not show up in national accounts.
The potential for expanding production at both the tannery and meat factory has been the focus of other studies, emphasizing the need for privatization of the industries and the liberalization of procurement procedures.

C. Aggregate Value of Regional Production

A large percentage of regional livestock production is not marketed, but rather is consumed by herders themselves. The bulk of analysis in the report addresses cash transactions; however, it is still important to have an overall notion of total production value, even that part which is not marketed. Table 3 provides an estimate of total regional production from

the livestock sector in 1987, including an estimate of the value of milk production. The figure of 3,681.721 million far exceeds the aggregate value of agricultural production in the region, although 1987 was not particularly good year for the livestock sector, especially for milk production. As the table indicates, the contribution of cattle to regional production greatly exceeds the value of other animal types. It should be noted, however, that the great majority of the value of dairy production in the region comes from camels, rather than from cattle.

Table 3 Regional Value of Livestock Production, 1987 (Lower Jubba Region and Jilib District)

	Number Marketed	Value (000) SoSh	Number Consumed	Est. Value (000) SoSh	Total Value (000) SoSh
Cattle[a]	93,778	1,793,356	28,000	224,000	2,017,356
Camel[b]	5,365	134,125	6,851	109,616	243,741
Goats[c]	31,331	93,993	20,888	41,776	135,769
Sheep[c]	7,779	23,337	5,186	10,372	33,709
Dairy Products[d]	2,631,000 (liters)	163,122	17,548,770 (liters)	1,088,024	1,251,146
					3,681,721

Notes:

[a] Based on annual cattle consumption of 2.01 per herder household at a price of SoSh 8,000.
[b] Based on 2.5 percent market offtake rate at an average price of SoSh 25,000 and consumption of .49 per herder household at SoSh 16,000.
[c] Based on 15 percent market offtake and 10 percent offtake for consumption, at prices of SoSh 3,000 and SoSh 2,000, respectively.
[d] Based on herder milk sales which show that approximately 13 percent of available milk is sold.

D. The Resource Base of Livestock Production

The physical environment of the Kismayo region provides both opportunities and constraints to livestock production. The resource base of the pastoral sector has been defined in several reports (Hendy et et. 1985; 1987; AHT 1987; JESS 1989)

and only the most salient features need be repeated here. The important indicators can be distinguished according to range, water, and disease factors. Similar to other rangelands of Africa, the Kismayo region experiences considerable seasonal variation in fodder availability, reflecting the variability of climate.

The western rangelands of the Lower Juba region are considered among the country's finest grazing areas for cattle because of the relatively high annual rainfall (in excess of 500 mm in many locations) and the availability of seasonally flooded areas (e.g., Lac Dera and Descheeg Wamo). The latter are more likely than other range areas to have good stands of perennial grasses during the dry seasons. In the Gu and Der rainy seasons (April-June and October-November), the main cattle grazing areas are located away from the coast and Jubba River, especially in the Lac Dera and Lac Jiira plains west and northwest of Afmadow town (see Figure 1). The Jiira area, located approximately 50 kilometers northwest of Afmadow town, is the most important wet season grazing area for Afmadow cattle. In general, the better wet-season grazing areas are located in the northern parts of the Kismayo region, accounting for the general movement of cattle and people from south to north during these months. The direction of movement is reversed in the dry season as cattle move toward the Descheeg Wamo (located off the Juba River), the coast, Bhadaade District, and the Jubba River. If the dry season is not particularly severe, then Afmadow cattle will graze for most of the year in the Lac Dera and Lac Jiira basins north of Afmadow town or around the waterpoints (Bibi and Mido) in the southern portion of Afmadow District. The dry season grazing area that supported the largest concentration of Afmadow cattle in the 1987-88 dry season was Descheeg Wamo. Because of the severity of the 1987-88 dry season (December-March 1988), there were very few cattle remaining in the Lac Jiira and Dera areas in early 1988.

The Kismayo region also has excellent areas for camel production, but these tend to be in Kismayo District and the northern portion of Afmadow District. Since camels are browsers (i.e., they feed off the leaves and branches of shrubs and trees rather than grasses), they often do not directly compete for vegetation grazed by cattle. Seasonal grazing areas for camels in the Kismayo region are quite distinct from those of cattle. They generally move in the opposite direction of cattle during the season, although this will vary depending on the availability of labor for herding. While camels are found near the coast during the wet season, they tend to migrate toward Afmadow town in the dry season when most local cattle are moving in the opposite direction. It should be noted that over the past ten years many camel herders from Gedo region (northern Jubba Valley) have moved their herds to

Afmadow District, to take advantage of good water availability and range areas vacated by cattle in the dry season. In a random survey of camel herders around Afmadow town in February 1988, it is found that almost 90 percent had recently come from Gedo region. Camels rarely enter southeastern Afmadow District, which is a prime cattle producing area, because of the prevalence of tsetse flies and waterlogged soils.

The vegetation resources of the southern portion of the Kismayo region provide an ideal habitat for tsetse flies, the transmittor of the deadly trypanosomiasis disease. The tsetse fly belt is concentrated along the Juba river, the Descheeg Wamo, and the southern portion of Bhadaade District, providing a significant constraint to livestock production in the region. As we will discuss later in the report, herders expend considerable amounts of cash on the purchase of trypanosomiasis-related drugs. Herders are aware of the tsetse belt and devise management strategies to minimize contact with tsetse areas. Cattle herders of Afmadow prefer to use the Descheeg Waamo and riverine areas only in the dry season, when tsetse infestation is less than in the rainy seasons. Differences in the importance of camel production between Kismayo and Afmadow Districts relates in part to the greater prevalence of tsetse in Afmadow District.

Water availability is a constraint to livestock production in the Kismayo region, especially in its western part. In the eastern part water is less of a problem than fodder availability. In the dry season, water is available from boreholes, private dams/ponds (called War), and wells. The former water source is managed and maintained by the government, while the latter sources tend to be privately-owned and managed. In addition, the Jubba River provides a source of water throughout the year, but as indicated above pastoralists are reluctant to move to the riverine areas because of the prevalence of tsetse flies. Currently there are an estimated 5000 water ponds in Afmadow District alone, 12 motorized boreholes in the region, and several functioning wells (exact number is unknown). Many of the boreholes in the Kismayo region are concentrated within a 100-kilometer radius of Kismayo town, with very few functioning in the more remote parts of the region (see Figure 1). The boreholes were developed along stock routes to encourage exports from the Kimsayo port. Within the household survey area (limited to a 100 kilometer radius of Kismayo town), lack of water is not a problem and most seasonal movements are determined by pasture rather than water availability. In fact, there is evidence that an excess of waterpoints, especially in Afmadow District, has created problems of overuse of certain range areas since pastures around the waterpoints are heavily grazed. The large

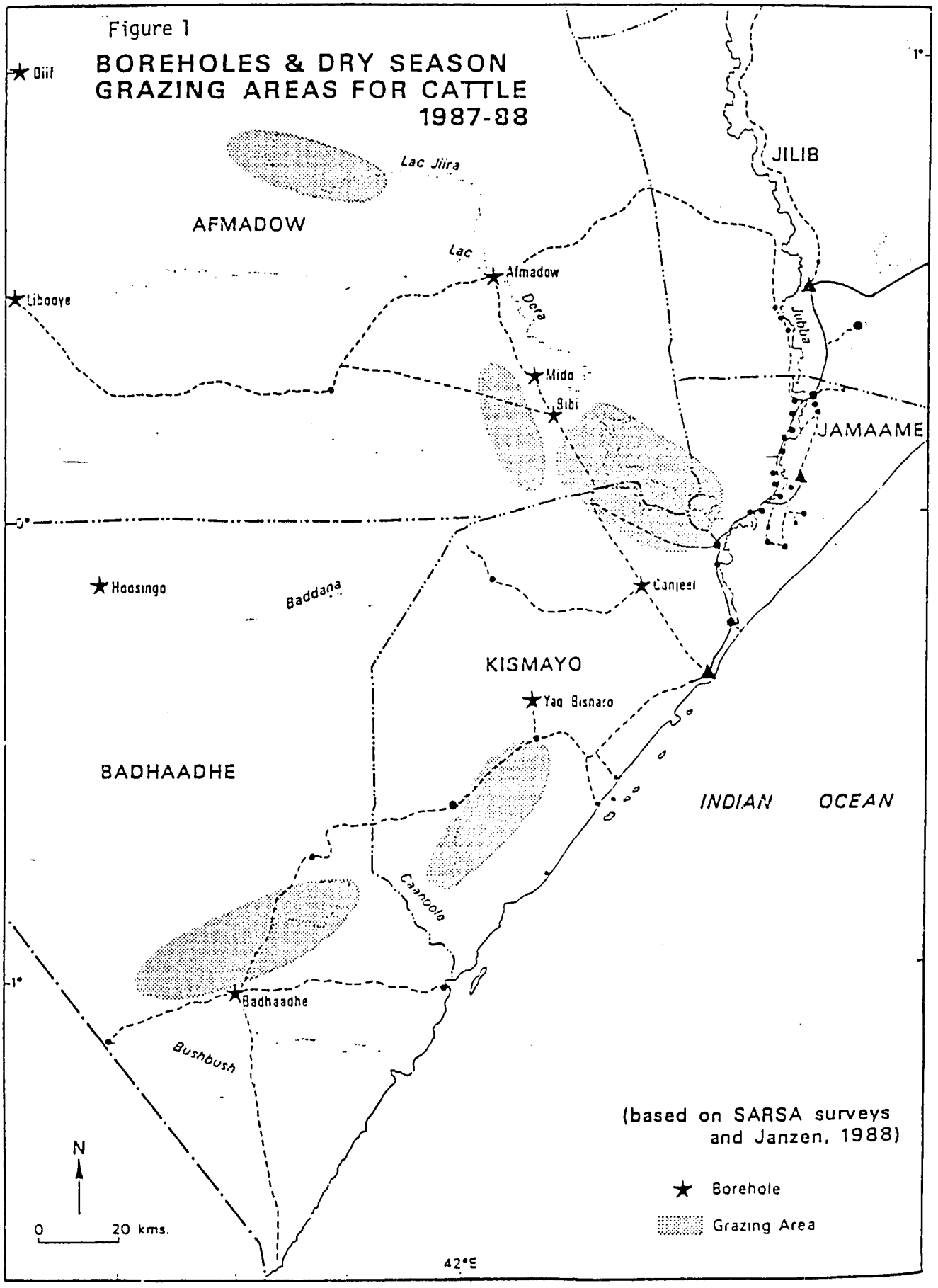
Figure 1
BOREHOLES & DRY SEASON GRAZING AREAS FOR CATTLE 1987-88
Oiil
Lac Jiira
AFMADOW
Lac
Afmadow
Libooye
Dera
Mido
Bibi
JILIB
Jubba
JAMAAME
Hoosingo
Baddana
Canjeel
KISMAYO
Yaq Bisnaro
BADHAADHE
INDIAN OCEAN
Ganoole
Badhaadhe
Bushbush
1°
42°E
N
0 20 kms.
(based on SARSA surveys and Janzen, 1988)
Borehole
Grazing Area

number of waterpoints in Afmadow District further exacerbates range conditions by attracting outside herders, especially camel herders, and their animals to the area.

E. Different Livestock Production Systems of the Region

There is considerable variability in livestock production systems within the region, which relates closely to the environmental characteristics described in the previous section. Rainfall in the region tends to decrease as one moves away from the coast and Juba River, making rainfed agriculture very problematic in the northern parts of the Lower Jubba Region. In the area covered by household surveys, rainfall is adequate to support agriculture in most years. In the locations covered by household surveys, approximately 50 percent of herders combine livestock production with rainfed agriculture. The contribution of agricultural production to overall household incomes, however, is minimal in the herder areas surveyed, except around the settlements of Bulla Xaaji and Abdulla Biroole (Kismayo District). In general forms of integrated agropastoralism, where both crops and livestock contribute significantly to household production as in the Bay Region, are rare in the Kismayo region.

Major differences in livestock production systems are found between Kismayo and Afmadow Districts, with the major variation being the importance of camels in Kismayo District. Average livestock holdings per household in Kismayo District are 43 cattle, 22 camels, and 7 goats and sheep, and there are several households that keep only camels and small stock. The sale of camels and camel milk provide a significant amount of household income in Kismayo District. In contrast, camel production is virtually non-existent among Afmadow herders surveyed, with camels mainly being kept as transport animals rather than for sale or production of milk. Incomes among Afmadow herders come almost exclusively from cattle sales, and there is very little sale of milk. Average herd holdings among Afmadow herders are 75 cattle, 2 camels, and 8 goats and sheep. Afmadow herders are cattle pastoralists and their allocations of labor, water, and other production inputs vary from those of Kismayo herders. Except during severe drought years, such as 1987-1988, their seasonal movements tend to be more restricted than those of Kismayo herders; camels require a considerably larger area to forage than cattle. While cattle should be watered at least once every two days, camels can be sustained at watering intervals of 11 to 14 days, and thus can graze up to 80 kilometers from water points. Cattle are generally restricted to grazing pastures within 15 kilometers of a water point.

F. Support Institutions

Institutional support for livestock activities in the region is particularly weak. Nonetheless, several institutions play a role in the livestock sector, and all of these are part of government. The two most significant instititions are the Veterinary Service, Department of Animal Health, Ministry of Livestock, Forestry, and Range, which provides veterinary services and drugs in the area; and the Water Development Agency (WDA) that operates most of the boreholes and government ponds in the region.

1. Veterinary Service

The Veterinary Service division of the Department of Animal Health is the only officially-sanctioned channel for the distribution of veterinary drugs, although there is considerable informal trade of veterinary drugs. The Veterinary Service also is responsible for implementing animal vaccination programs in the region. The regional veterinary service is dependent upon the national headquarters to provide funds and veterinary supplies. Unavailability of drugs from government is a serious problem, especially in the rural areas. The Veterinary Service, Lower Juba Region maintains a regional veterinary office and lab in Kismayo; veterinary offices in each of the District headquarters; and outstations in Wadajir (Bhadhaade District), Bulla Xaaji (Kismayo District), and Bilis Qoqaani (Afmadow District). With the exception of the Kismayo Office, veterinary stations are only marginally operational due to lack of supplies, operating refrigerators, and funds for vehicle maintenace and petrol. The entire Lower Juba Region is allocated only 6,000 SoSh per quarter to maintain vehicles and purchase petrol, which is insufficient for one district to operate let alone four. Each district has one vehicle allocated to it, but they are frequently inoperable due to maintenance problems or petrol shortages. In order to maintain some level of service, the district veterinary officers often take over the costs of vehicle operation but then are able to use them at their own discretion. Cattle dips are found only at the Lahaley holding ground near Kismayo town, which means that herders usually apply their own insecticides.

2. Water Development Agency (WDA)

This government institution operates and maintains boreholes and government ponds in the Kismayo region. It has constructed approximately 5 large water ponds in the Lower Juba region, covering areas that are not well served by boreholes. The WDA establishes offical water rates at the boreholes for animal use, although there is considerable variation from the official rates. The borehole operator often establishes his own water rate based on the calculated costs of maintenance and

fuel. It is noted that the official water rates do not allow sufficient revenue to purchase fuel and spare parts, which the borehole operator frequently has to buy from private sources. This is especially the case in the more remote areas of the Lower Juba, where access to Kismayo town is difficult. The WDA office in Kismayo frequently is not alloted sufficient funds from the national headquarters in Mogadishu to maintain and operate the pumps, and depends on the borehole operators to generate extra revenue. In general, among the different institutions the WDA provides the most reliable service to herders. In no cases did we find water points in the Kismayo region that did not have at least one borehole functioning in the dry season.

3. Livestock Marketing Department

This department is also part of the Ministry of Livestock, Forestry, and Range and is responsible for overseeing the services and infrastructure for the export trade. It operates holding grounds at Haglibaar (near Afmadow town) and outside Jilib town, as well as a quarantine holding ground at Lahaley (near Kismayo town). It oversees the required vaccination and quarantine program for export animals and operates boreholes at each of the units and a dip at the Lahaley facility. The services that it provides are for the traders and it has very little contact with herders. The infrastructure for the export trade is expected to be improved through the USAID financed Livestock Marketing and Health Project.

4. The Trans-Juba Project

This is the remnant of a World Bank-funded marketing project that operated from the mid-1970s to 1981, but continues to maintain an office in Kismayo and provide limited services to the livestock sector. It operates and manages a fodder farm along the Juba river near Mogambo that provides feed for the animal export trade, as well as provides water point construction services for herders and private traders. During the period 1981-87 it leased out its equipment to herders and, to a lesser extent, traders to construct water ponds/dams. After its completion the project aggresively rented its equipment in order to generate some revenue to maintain its office and staff. The recent proliferation of water points in Afmadow District (discussed above) is a result of the ambitious rental and construction program of the Trans-Juba Project. While it continues to operate the fodder farm, it has stopped constructing water points in the region due to protests by herders and the regional government. Local herders were disturbed by the immigration of herders and the deterioration in caused by water development. Although they initially supported the Trans-Juba program of water point development, herders later went to the regional government to seek

assistance in stopping it, They had additional support from the National Range Agency, Ministry of Livestock, Forestry, and Range, who found the construction program of Trans-Juba difficult to integrate with its own range management work.

G. The Macro-Policy Environment

The government does not directly intervene in the production or marketing of livestock in Somalia. There are no market boards or parastatals responsible for domestic or export marketing of animals; nor are there large, government-managed production schemes, such as are found in the agriculture sector. In the 1970s, a parastatal (the Livestock Marketing Agency) did regulate prices, export, and trader activities, but it was abolished in the late 1970s. Prices for milk and live animals generally are determined by market factors, and the monopsonistic behavior of certain large traders. The state collects taxes on market activities, but leaves the operation of the livestock trade in the hands of private traders. However, the export of hides and skins and processed meat is regulated by government bodies, but as we indicated above its current importance to the Kismayo regional economy is negligible.

In the absence of direct intervention, several state policies and regulations allow the government considerable influence in the livestock sector. These policies have been reviewed by the Livestock Marketing and Health Project (Cassam 1987) and need only be briefly summarized here. The most significant regulation of the export trade is the requirement that traders must exchange at least 50 percent of their foreign exchange earnings at the official exchange rate, which is considerably below the free market rate. In March 1988 the official exchange rate was SoSh 99 = $1, while the informal rate was approximately SoSh 270 = $1. The government raised the required proportion of earnings to be exchanged at the official rate from 35 to 50 percent in 1986. Since local traders compete with merchants of neighboring countries, such as Kenya, the price that they can offer to producers and still maintain a minimal profit is below the going market price. During the past seven years, the profits of export traders have gone down considerably due both to foreign exchange policies and competition with countries, such as Australia and the EEC members, that subsidize their exports.

The government also requires animal exporters to utilize a parastatal shipping agency, Somali National Shipping Agency and Line, for arranging transport. Exporters are not free to choose their own shipping lines, but must work through this government institution, which has a monopoly on all shipping in the country. Considerable inefficiencies occur because traders frequently have to wait several days for the shipping agency to

arrange transport. This requirement especially hurts exporters working out of Kismayo, since most of the information is channeled through Mogadishu and priority seems to be given to Mogadishu exporters. While exporters are awaiting transport, they incur considerable costs in keeping their herds fed and watered.

A third mechanism through which the government affects the livestock trade is banking policy. Credit for exporters can be attained in the country only through the Somali Commercial and Savings Bank, which only provides short-term credit (3 months) to exporters who have already arranged an export shipment. This means that funds are not available for speculative animal purchasing by traders during the year. To purchase animals and pay off other costs, the trader is given up to 50 percent of the value of the letter of credit at the official exchange rate, which, as noted above, is well below the market rate. The policy of giving credit only on a short-term basis does not allow traders to purchase animals when prices are most favorable (Cassam 1987:13). In addition, the letters of credit are more easily obtained in Mogadishu rather than in Kismayo, which means that exporters based out of Kismayo are at a disadvantage. Livestock companies do not maintain headquarters in Kismayo because of the lack of banking and communication facilities. This is true even for those firms carrying out most of their business in the region. Among the 58 livestock companies listed in the Somalia guidebook to exporters, none had headquarters in Kismayo.

Other government policies influence the livestock sector of the Kismayo region. For example, the policy surrounding the marketing of hides and skins discourages herders, who prefer to sell to Kenya-based traders, from selling products in the region. In this case, the government-sanctioned Hides and Skins Agency has a sole monopoly for the purchase of hides and skins and, as noted above, offer official prices that are well below market prices. Herders avoid this policy by utilizing the skins for domestic purposes or by selling them to traders in Kenya.

Another government policy related to the livestock sector is the regulation that all veterinary drugs and services be provided by the government veterinary service. This again is a type of monopoly that forces herders to seek solutions on the informal market, thus purchasing most of their drug supplies from private traders.

The state has virtually no effective policies regulating land and water use in the rangelands. The National Range Agency states that they maintain certain controlled grazing areas in the region, but these policies are not regulated or enforced in practice. Local use of range resources are mainly

regulated by groups of private herders. When the land and water rights of herders conflict with agricultural interests in the region, the pastoralists usually lose ground. Indirectly, the state's policies on irrigation and irrigated land development have affected resource use in the livestock sector by cutting off herder access to range and watering points near the Juba River. Obvious examples are the development of the Juba Sugar estates, the Mogambo Irrigation Scheme, the Fanoole Irrigation Scheme, and the numerous banana estates. The loss of water and grazing points along the river between Jamaame and Jilib especially affect herders in the dry season, when they move toward better-watered zones.

In sum, government policies and presence are apparent in the livestock sector. The state has policies regulating the delivery of inputs to herders and the operation of the hides and skins and animal export trade. Nonetheless, the state has allowed livestock production to remain almost completely in the hands of private, small-scale herders. It has not, in contrast to the agricultural sector, adopted policies favoring large-scale, production schemes, which may be either government or privately-managed. In addition, it has only indirectly tried to regulate the activities of livestock traders and has not devised state marketing boards or companies that compete with the purchasing strategies of private merchants. The macro-policy environment of the livestock sector provides broad parameters for livestock production and marketing activities, but still allows considerable freedom of choice by herders and traders. The penetration of government policy in the livestock sector has been considerably less than has taken place in the urban and agricultural sectors.

H. Discussion and Summary

This paper reveals the importance of livestock activities to the regional and national economies, whereby animal exports earn 70 to 90 percent of the Somalia's annual foreign exchange earnings. It shows that cattle are the predominant economic resource of the Kismayo region, accounting for 25 percent of the national herd and a large percentage of the country's cattle exports. Cattle production is constrained by the presence of trypanosomiasis in the region, as well as the seasonal variability of fodder and water resources. When the unofficial exports of cattle to Kenya are accounted for, the region's contribution to the national economy increases significantly. Over the past 5 years, the contribution of Kismayo to the country's official livestock exports has declined, due mainly to the imposition of a ban on cattle imports by Saudi Arabia.

The government provides important water and veterinary services and inputs in the region, but these are supplemented by purchases from private sources. Like the cattle trade,

considerable trade in livestock inputs are made on unofficial markets. Funds to maintain public sector services and institutions are minimal, accounting for the proliferation of informal activities to supplement the inadequate supplies. The livestock sector is best served in overseas export activities, where the state provides holding grounds, water services, and credit. Virtually no services are provided to encourage cattle exports to Kenya, although, as stated previously, it is the main source of revenue for the livestock sector. The state does not directly invest in nor regulate livestock production activities, nor does it directly regulate livestock marketing activities.

NOTES

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