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COOPERATIVE AGREEMENT ON SETTLEMENT AND RESOURCE SYSTEMS ANALYSIS

RURAL-URBAN EXCHANGE IN THE KISMAYO REGION OF SOMALIA

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SARSA Research Team for
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EXECUTIVE SUMMARY

A. INTRODUCTION

The primary purpose of the Kismayo Region study was to provide an account of the main characteristics of the Kismayo regional economy that would be useful to the Government of Somalia, USAID/Mogadishu, and other agencies concerned with development in the region. Of principal interest was the potential for rural and urban economic activities in the region to reinforce each other in the development process.

The study region covers the five southernmost districts of Somalia: Badhaadhe, Afmadow, Kismayo, and Jamaame, in the Lower Jubba Administrative Region, and Jilib District in the Middle Jubba Administrative Region.

The analytical methodology used in the Kismayo regional study is based on SARSA's rural-urban exchange (RUE) research framework. This framework takes agriculture and livestock production as the lead economic activities in the rural regional income generation and development processes. The basic proposition behind the RUE framework is that economic exchange between farmers/herders and towns is the main engine of broad-based income generation in rural areas, and rural economic growth is therefore most effectively fostered through measures that enable farms and towns to expand their roles as suppliers and markets for each other.

Under the RUE framework, farm-town exchanges are considered in three broad categories: exchanges related to marketing agricultural commodities, exchanges related to purchasing agricultural inputs, and exchanges related to household expenditures. Rather than viewing agricultural production as a broad aggregate, SARSA adapts the basic methodology to a particular rural area by concentrating field research on the rural-urban exchanges and income multiplication effects linked to key commodity systems in the region. For the Kismayo Region, maize, bananas, cattle, and milk were selected as the key commodities. Original data for the study were collected from a series of field surveys covering agriculture, livestock, and urban settlements.

B. OVERVIEW

The population of Kismayo Region has grown rapidly in recent years due to substantial in-migration of herders and to the settling of herders in the region's small towns and other urban areas. The population now numbers close to 400,000, of which two-thirds are settled. Principal economic activities that generate basic income for the region are farming and livestock herding. Agriculture is the main occupation for the large majority of the people in the region, and the region constitutes a significant part of the nation's agricultural output, including much of the sugar, about half the rice and bananas, and one-tenth the national production of maize. The Kismayo Region contains 25 percent of the national cattle herd and accounts for a substantial portion of national livestock exports. In urban areas most of the population earns its living from commerce, services, or

transportation; there is some manufacturing, but it is currently of relatively minor economic importance.

C. AGRICULTURE

Though the study region has tremendous agricultural resources and potential, it is very far from fulfilling its potential.

Nearly all farm households produce maize, many produce sesame, and a few produce cotton. Farm household production is oriented to domestic markets. It takes place on rainfed lands to the west of the Jubba River, on inundated lands to the south and east of Jamaame town, and on desheq Waamo, which is a spring and river fed depression surrounded by fields that are periodically flooded. Yields for all crops are relatively low due to the lack of research and extension services, the use of traditional technology, lack of flood controls, periodic droughts, and other institutional, socio-economic, and agro-climatic circumstances.

Along the banks of the river over 50 estates produce bananas, primarily for export. Banana yields are very low compared to other countries. A government parastatal, Somalfruit offers limited technical assistance to producers, has a monopoly in the provision of inputs, and holds a monopsony on purchases for export.

There are also several government agricultural-related schemes in the study region. Fanoole is a large multipurpose irrigation project that generates hydroelectric power and produces rice with a gravity irrigation system; the Jubba Plantation produces and refines sugar; the Mogambo Project is aimed at producing irrigated rice and maize. These enterprises were intended to avoid the low productivity and ostensible labor bottlenecks of smallholder agriculture by using large-scale, mechanized, and irrigated production, but they have been beset by economic problems as well as technical ones, and have become a drain on government resources.

A number of public institutions provide support services to agriculture in the Kismayo Region. The Agricultural Development Corporation (ADC) stores grain in times of surplus and serves as the buyer of last resort if market prices fall below a certain level; Somaltex has responsibility for cotton marketing; the Farm Machinery and Agricultural Service Organization (ONAT) provides machinery for hire to assist in land preparation for smallholders and banana estates. These and other organizations suffer from a lack of funding and qualified staff.

Several government policies affect production in the region. These include foreign exchange policies, price controls, food aid policies, parastatal policies, and more. An important recent policy change involves the liberalization of ADC, which allowed private traders to become more active in grain marketing and encouraged farmers to produce more. Despite poor performance and accumulating cost, the government intends to keep its large-scale agricultural schemes operating. Relative to their use of scarce

resources of irrigated farm land, river water, and investment funds, returns to the region from these schemes are meager.

D. LIVESTOCK

Livestock activities are important to the regional and national economies. Animal exports account for 70 to 90 percent of Somalia's annual foreign exchange earnings. 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. Production is constrained by the presence of trypanosomiasis in the region, as well as the seasonal variability of fodder and water resources. Over the past 5 years, Kismayo's contribution to the country's official livestock exports has declined, due mainly to the imposition of a ban on cattle imports by Saudi Arabia. When the unofficial export of cattle to Kenya is accounted for, the region's contribution to the national economy increases substantially.

The government provides important water, veterinary services, and other inputs to livestock production in the region, but these are supplemented by purchases from private sources sometimes operating without official sanction. Funds to maintain public sector livestock services and institutions are minimal, leading to a proliferation of supplementary informal sector activities. The livestock sector is best served by the government 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, though it is the main source of livestock trade revenue. The state does not directly regulate nor invest in livestock production, nor does it directly regulate livestock marketing activities.

E. THE TOWN SYSTEM

In light of the low level of economic development and the relatively narrow array of nonfarm activities, the Kismayo Region is surprisingly urbanized. A little more than three-fifths of the settled population, or two-fifths of the total population, lives in urban areas with more than 2,000 inhabitants. In part, this is due to the scarcity of water for people and animals, which encourages rural households to cluster in sizeable settlements around water sources. The majority of the settled population outside the three large towns is concentrated in a small area on either side of the Jubba River, especially in Jamaame District. Elsewhere, population densities are extremely low, often less than one person per square kilometer.

Using standard methods of scalogram analysis, settlements were classified according to five categories. These include the regional center of Kismayo town, two subregional centers of Jamaame and Jilib, eight market centers spread evenly throughout the region, and 26 rural centers serving local hinterland populations. Basic urban services and facilities in the region are few and far between.

With the exception of the Jubba sugar factory at Mareerey, one of the nation's largest manufacturing establishments, there are few modern industrial plants in the region of any significance. This is due in part to the limited size of the regional market, its distant location with respect to the rest of the country, and the lack of supporting infrastructure and services. Small-scale urban business activity in general is increasing, primarily in commerce, transportation and services. Increased trade is putting local small-scale manufacturers, such as tailors and shoemakers, out of business in face of competition from foreign firms producing better and cheaper goods.

The road network in the Kismayo Region has been only partially developed. The capacity of the Department of Highways to maintain roads is constrained by a chronic lack of funds and foreign exchange. Tertiary road links are largely neglected.

The lack of water generally, and the lack of potable water in particular, is a serious constraint to urban development in the region. Village representatives frequently mentioned health problems related to poor water as a major concern, and placed potable water projects high on their lists of development priorities. Most villages rely on wells operated with hand pumps. Only four settlements have a main water supply system. The Kismayo water system has been steadily deteriorating for several years, although it is due for some rehabilitation under the current port redevelopment project.

With the exception of the recently rehabilitated facility in Kismayo town, the region suffers from a widespread lack of reliable power supply. Outside Kismayo, only nine settlements have power, generated in most cases by ageing diesel plants that serve only a small part of the local population and operate only part of the day. Apart from the facility at Kismayo, there is also a small hydroelectric generating plant at Fanoole, built and operated by the Chinese as part of the irrigation scheme there.

Kismayo port is the third largest in the country after Mogadishu and Berbera, and handled between 7 and 12 percent of the annual tonnage that passed through these three ports in the period 1981-1985. It is operated by the Somali Ports Authority (SPA), which lacks funds to cover regular maintenance of buildings and machinery. On average, the port is operating at about 30 percent of capacity, due in part to Kismayo's relatively poor location with respect to national markets, coupled with its weak road links to the north. Commercial traders in Kismayo often prefer to use the Mogadishu port because it is easier to obtain necessary customs and excise documents there.

F. THE MAIZE COMMODITY SYSTEM

When there is a good maize harvest, up to 30 percent of it is marketed. When local production is sold locally, producers realize net cash income and local traders realize a return on trading activities. When the local harvest is poor, maize is imported from the Shabelle Region, and the only local beneficiaries are the traders and the shopkeepers who sell it. One

development priority, therefore, is to explore means for boosting local maize production so that it can satisfy a higher proportion of local demand. This would result in higher local farm household incomes, less outflow of local income to bring maize into the region, and more local spending and "respending" benefiting business in regional urban centers.

Farmers in villages east of the Jubba River in Jamaame District have higher yields, better land, and higher incomes from farming than elsewhere in the region. Their production activities and sources of income are more diversified, and with them, under current conditions, lies the best potential for agricultural expansion. For the present, the most practicable and effective action that could be taken is to improve water management in the inundated areas in Jamaame District, so that these areas can expand maize production.

G. THE BANANA COMMODITY SYSTEM

Certain characteristics of banana production in the Lower Jubba limit productivity to yields that are very low by world standards. There is no systematic agronomic research pertinent to banana production in the Lower Jubba area. The soils near the river are relatively fertile, but their high clay content prevents proper drainage. Local climatic conditions are not particularly favorable. Fields are susceptible to periodic flooding. Seasonal fluctuations in river flow play havoc with the irrigation regimes of the farms.

Banana plantations occupy the best irrigable lands in the region, and banana exports generate considerable revenue. However, economic benefits for the region are severely limited. Much of the income is captured by Somalfruit through its monopoly sale of imported inputs to producers, through its monopsony export marketing activities, and through its use of a dual foreign exchange rate system. Somalfruit profits are transferred outside the region. Producer net incomes are relatively low on average, and because owners of banana estates largely reside elsewhere, the major proportion of estate net revenues are also transferred out of the region. The primary economic benefits to the region from bananas are in the form of labor wages. In 1987, approximately 9,400 people earned an average of SoSh 24,746 (roughly US$ 123) from banana production and marketing. Though minimal, these earnings do play an important role in supplementing farm household incomes.

H. THE CATTLE COMMODITY SYSTEM

Cattle is the highest revenue grossing commodity produced in the region. Herder households raise other animals as well, and they move in annual cycles across range and marketing routes extending over large portions of the study region and beyond. Yet there is extensive interaction among herders and urban centers. Among wealthier herders, investments in urban enterprises, especially retail trade and rental housing, are not unusual. Residents of local towns, with the exception of Kismayo, consume

few cattle; but the towns assume major importance as transaction points in the Kenya, overseas export, and Mogadishu trade. Most purchased inputs for livestock production originate outside the region or involve imported equipment, and the region's urban centers figure significantly in the channels through which they are acquired. For example, veterinary drugs are purchased at the larger towns, such as Kismayo, as well as at smaller centers such as Afmadow; small settlements such as Bibi and Cabdulle Biroole are watering points for livestock; repair and maintenance services for boreholes are provided by the larger towns.

The urban system of the Kismayo Region plays a marginal role in providing wage labor opportunities for herder households. But in addition to the purposes mentioned, urban centers are visited frequently by herder household members in connection with consumer purchases, foreign exchange transactions, and the common practice of borrowing livestock. Although herder visits to urban centers vary during the year in accordance with the movement of herds, the extensive herder-urban interaction creates opportunities for significant portions of herder income to remain in the region and be multiplied as income to urban households. These opportunities are now far from fully exploited, owing in part to the poor marketing infrastructure of the settlement system.

I. THE MILK COMMODITY SYSTEM

The milk trade serves local markets in the region exclusively. The three larger towns of Kismayo, Jamaame, and Jilib account for most purchases of milk in the region. Camel milk makes up approximately 80 percent of milk sold and shows less instability in supply and price than cow milk. Despite large volumes of sales, the rural-urban milk market lacks bulking or wholesaling, and is highly competitive. The largest towns in the region have specialized milk traders, or abakaar, and peri-urban producer-traders that fill important niches in the market not served by herder-traders.

Smaller towns in the region play only a minimal role in dairy trade, and producers are almost completely dependent on large centers to market their produce. Such towns as Bilis Qooqani and Libooye provide small markets for milk and, in contrast to the cattle trade, do not serve as transshipment points. The perishability of milk products greatly limits the participation of remote settlements in milk trade. In addition to providing markets, the large towns supply important transport services to milk traders and producers.

The rural-urban milk trade allows little opportunity for capital accumulation among traders, most of whom are women. In aggregate, however, it generates considerable revenue, all of which accrues to regional households.

J. RURAL-URBAN EXCHANGE: PRODUCTION AND MARKETING

This study compares the distribution of revenues from the production and marketing of the four key commodities in terms of net incomes for producers and traders, revenues accruing within the region as compared to outside the region, and revenues accruing to four household "sectors" within the region: households in large towns, households in small towns, rural households (primarily farmers), and herder households.

The analysis shows that cattle contributes the most net income to traders and producers and the largest gross revenues to the regional economy, about 68 percent of the total derived from the four commodities. Producers of commodities that have strong local markets, such as maize and milk, receive the largest shares of the final price. By contrast, banana and cattle producers, oriented mostly to export markets, receive the smallest share of the final (FOB) price.

In terms of potential contributions to regional income growth through income multiplication (spending and respending within the region), banana production and marketing ranks lowest. It accounts for the second largest value of marketed output among the four commodities, but at least 60 percent of this is lost to the region. By contrast, close to 90 percent or more of the value of maize and milk production and marketing is retained in the region. If a market value is attributed to that proportion of production that is consumed by households, then the importance of either milk or maize to the regional economy is three or four times greater than bananas. In short, banana production and marketing is largely an enclave sector in the region with poor linkages to the rest of the local economy.

Of the gross revenues that accrue to regional households from sales of the four key commodities, the largest part, 40 percent, accrues to herder households, primarily from sales of cattle. Small town households ultimately receive 24 percent of gross commodity sales, much of which derives from the major role small towns play in the Kenya cattle trade. In addition, small town households derive substantial income from farming and derive the largest share of income within the region from banana production and marketing. Only 9 percent of gross revenues from the four key commodities accrue to large town households, much of it from cattle trading and sales of inputs and services to livestock producers. (Households in the large towns also derive substantial amounts of income from economic activities not covered by this study.) About 6 percent of gross revenues from maize, bananas, cattle, and milk accrue to rural households in the study region, most of it from maize production and trading, and from wage labor on the banana plantations.

Production and marketing of the four key commodities account for SoSh 7,875 (roughly US$ 35) of income per person annually, the bulk of cash earnings in the region. In light of this low income, the proportion of gross revenues from these commodities that does not accrue to the region's households is a major regional development concern. It is a major concern not only for the loss in direct income that it represents, but because of the lost potential for multiplication into substantially more income in the

region. The additional income would greatly benefit both producers and urban households not engaged in agricultural or livestock production owing to the extensive linkages between herders and towns and between farmers and towns. The loss of income to the region directly and indirectly through the banana production and marketing system is a particularly high priority concern because banana plantations occupy the best irrigable land and consume enormous proportions of the region's water resources.

K. RURAL-URBAN EXCHANGE: CONSUMPTION AND INVESTMENT

To complement analysis of the amount and distribution of household income accruing from production and marketing of the key commodities, this study also examines patterns of household consumption expenditure, the distribution of income accruing to regional households from this spending, and patterns of household investment.

Food is by far the largest consumption item in the regional household budget, accounting consistently for more than 80 percent of the expenses for which data were recorded. The six most important household consumption items in terms of expenditures are sugar, maize, wheat, meat, milk, and oil/ghee.

The regional supply and demand for maize more than any other factor determines the share of household consumption expenditures that ultimately accrues as income to regional households. Maize supply is determined in the short run by climatic conditions and in the long run by land quality, water resources, technology, and so on. Maize demand is determined by household disposable incomes, availability and relative prices of effective substitutes, and climate (herder households, for example, purchase particularly large amounts of maize at times of drought, when milk is scarce). In good years, local producers supply little more than half the maize purchased by regional households.

Two additional factors figure in a major way in the distribution of spending and income accrual among urban and rural areas in the Kismayo Region: the locations where people do their shopping, and the nature of the marketing, and distribution networks associated with major consumption items. Households in large towns account for the bulk of consumption spending, followed in order of magnitude by herder households, small town households, and rural households. Rural households tend to be both poorer than other households and more self-sufficient. Of all regional household consumption spending, a little less than two-thirds accrues as income to regional households. The portion that does not accrue within the region is accounted for mainly by herder purchases, especially of maize.

When earnings from the sale of key commodities are added to earnings from local consumption expenditures, about a third of the total accrues within the region. Small towns take the largest share of the combined total, followed by herders and then the large town households. However, large town households also receive substantial income from other sources including transfer payments from the central government to district and

regional offices and earnings from urban enterprises particularly in the construction, transport, and service sectors, serving markets outside the region to some degree.

Analysis of household investment patterns shows that rural households tend to favor retailing as a first choice for nonagricultural business investment and rental property as a second choice. Urban households, however, are more likely to operate a commercial or petty manufacturing enterprise, although nearly two out of five households, and an even higher proportion among retailers, maintain a farm or livestock herd. Almost without exception, investments in business activities are located close to where the household lives or, in the case of herders, close to their home base.

An intricate web of rural-urban exchange patterns emerges from the data. Small town households capture roughly one-quarter of rural and one quarter of herder household consumption spending. Approximately another quarter of rural household consumption spending accrues as income to rural and herder households, but a portion of the trade involved in this takes place in small towns. One-fifth of all regional household consumption spending accrues as income to households in the larger three towns. Only about a third of regional consumption expenditures accrues as income outside the region. There is an active process of spending and respending - that is, of income multiplication - within the region, in which smaller towns, and to a lesser extent larger towns, play important roles. The analysis suggests that a regional economic growth dynamic would be most effectively fostered by measures that enhance the returns to farming, so that small farmers have more to spend, and that facilitate the market center roles of small towns, so as to increase the velocity of the income multiplication process. The data further suggest that as incomes rise through this process, farmer and herder investment in towns will rise, leading to stronger urban economies, regional economic diversification, and more diversified income sources essential to entrepreneurial risk taking on the part of rural, herder, and town households.

L. INTERVENTIONS

While this study was not undertaken for the purpose of producing development intervention recommendations, the field work and analyses lead to important conclusions for fostering a more prosperous regional economy.

The Kismayo regional economy is based on livestock and agriculture. Exports of cattle, and to a lesser degree bananas, provide the main sources of outside earnings for the region and will continue to do so for some time into the future. Yet regional income multiplication benefits associated with these commodities are relatively low. At the same time, the region has the capacity to provide much of its basic food needs, including maize, but especially meat, milk, and sugar. The size of the maize harvest greatly affects the need for imported food and hence the outflow of local income. There is a relatively vibrant pattern of rural-urban exchange in the region that, if fueled by greater local spending capacity and supported by improved

marketing facilities, can provide the basis for dynamic regional economic growth.

These observations point to five primary objectives for regional development policy:

i) to increase earnings from cattle and banana production and export marketing;

ii) to retain a larger share of cattle and banana export earnings within the region;

iii) to reduce the loss of regional income on imports of basic foods by raising productivity among maize farmers;

iv) to spur sectoral and spatial diversification of economic activity in the region through measures that foster expansion of small-scale enterprise and employment opportunities catering to local needs;

v) to strengthen the role of towns through improved access and infrastructure and services in support of agriculture, livestock production, trade, and other economic activities.

There are opportunities for interventions in macropolicy, institutional operations, and physical capital that would serve these objectives.

1. Macropolicy

a. The Foreign Exchange Rate

A free market exchange rate for foreign currency is likely to benefit the region more than a controlled rate that overvalues the Somali shilling. It would raise revenue to banana producers and exporters, making it feasible for both to pay higher wages. It would make overseas exporters of livestock more competitive in world markets and push up local prices, to the benefit of herders throughout the region. It would remove an artificial handicap from Somali Marine Products, allowing it to compete fairly with private traders and to pay local fisherman higher prices. A free market rate would raise the price of imported goods required for production, but in many cases the additional cost would be exceeded by increased revenues from export sales. It would also raise the price of many consumer items and would alter rural-urban terms of trade more in favor of farmers and herders, but much of the added revenue from exports would find its way back to large and small towns through rural-urban exchange. Assuming exports of cattle overseas recovers from its current historical lows, the additional expenditures for production and consumption would be more than offset by the additional revenues arising from foreign earnings, yielding a net gain for the region as a whole.

b. Price controls

Partial or complete removal of price controls would benefit the region. Local farmers would expand production, and as supply catches up with demand, further price rises of domestically produced goods would be dampened, traders would benefit from increased trade, and consumers would benefit from the easing of shortages and a reduction of artificially inflated prices in the parallel market.

c. Privatization

There are several opportunities for turning over to the private sector selected activities and services currently run ineffectively by government agencies. Four cases merit special attention for possible privatization: distribution of veterinary drugs, which in practice is already largely handled by private traders, albeit illegally; operation of boreholes; provision of electricity in smaller towns; and the operation of a meat factory and a tannery in Kismayo town, which is already under study. A simple interim measure would be to abolish the official prices for hides and skins that effectively preclude the tannery from purchasing needed inputs.

d. Food Aid

Although it is difficult to gauge precisely, a reduction in the volume of imported food aid would prompt greater consumption of domestically produced maize, bringing higher prices and thereby raising farm household incomes, and possibly output as well, in the region.

e. Domestic Marketing Policy

Liberalization of the maize marketing system appears to have had a beneficial impact on multiplying local incomes, and it should be maintained. The absence of controls allows private traders greater freedom to enter the market and results in more efficient matching of demand with supply, bringing higher prices to producers in surplus areas, such as Jamaame, and lower prices to consumers in deficit areas such as Afmadow.

2. Institutional Measures

a. Public Facilities for Import-Export Trade in Kismayo

In order to expand the volume of foreign trade through Kismayo, steps should be taken to improve key services needed by importers and exporters. Chief among these are financial services for letters of credit, up-to-date information on government regulations, and effective delegation of authority to local offices of central government ministries responsible for issuing the necessary documents for importing and exporting.

b. Regulating Jubba River Water Use

Under the auspices of the Ministry of Planning and Jubba River Development, a management system needs to be set up to cover the entire length of

the Jubba River, since offtake at points higher upstream affects the amount available lower down. Such a board will become all the more necessary if and when the Baardheere Dam is completed, and it should ensure adequate representation of small farmers and herders who are not included in the existing board, which covers only the Lower Jubba.

c. Community-Based Grazing Associations

To improve the provision and use of natural resources for livestock production, consideration should be given to decentralizing range and water management to community-based grazing associations. Their functions would include controlling the number and locations of watering points and promoting more productive and efficient use of grazing areas.

d. Milk Marketing Cooperative

The net returns to milk trading could be improved through formation of a market cooperative, which would allow traders to share the costs of certain capital equipment, such as vehicles and storage facilities, and would help to reduce excessive market competition. The cooperative could be established for Kismayo town. An NGO with experience in cooperative development could be approached to assist in establishing the organization.

e. Parastatals and Service Delivery

Parastatals and government agencies involved in the provision of services to the Kismayo Region, such as the WDA, the Kismayo Water Board, ENEE, and the Port Authority, should be given greater financial and managerial autonomy. Agencies could be given greater leeway to set user charges for the services they provide, to bid for foreign exchange on the open market, and to pay competitive salaries in order to attract capable staff and managers. Granting these agencies greater financial autonomy would improve the delivery of the services for which they are responsible.

f. Local Government Finance

Since the central government is not in a position to offer much financial support help to the district councils, efforts should be made to strengthen the fiscal positions of local governments. These should include improving revenue collection, more frequent price adjustments to keep pace with inflation, and greater autonomy for setting local tariffs and tax rates. In addition, current methods should be reviewed for financing construction of urban services, such as water, roads, and surface water drainage, and recovering capital costs.

g. Mobilizing Community Resources

Given the limited capacity of government to construct, operate, and maintain local facilities and services, opportunities exist for mobilizing the resources of communities to do these things themselves. There are many possibilities to consider, including setting up committees for village water

supplies, farm irrigation channels, and herder livestock dips. This could be done with the help of the Party or NGOs.

h. Somalfruit

Opportunities also exist for transferring certain functions currently performed by Somalfruit to local firms. These include packing, transporting bananas to the port of Kismayo, and delivering inputs and other services for producers. This would not only offer more choice to producers but would increase the region's share of total earnings from banana exports.

3. Physical Capital

a. Baardheere Dam

Construction of Baardheere Dam would benefit agricultural production in the region by providing for a more predictable and consistent flow of water down the river. It would relieve current seasonal shortages and alleviate competition among users, particularly between the banana plantations and small farmers in Jamaame District. It would also allow the Fanoole hydroelectric plant to operate all year, and would make feasible an extension of the grid to serve Jamaame and possibly other communities as well.

b. Mini-Irrigation Works

To improve flood control in the inundated areas, irrigation works should be rehabilitated, starting with the floodgates. In addition, a program of mini-irrigation projects could be launched to bring water to small farms in the rainfed areas adjacent to the Jubba River. While the potential for gravity-fed systems is limited, experience in the Middle Jubba Region suggests that it is feasible to use small diesel engines to pump water over short distances.

c. Infrastructure for Livestock

Additional boreholes should be established in strategic locations along the Kenya stock route, since this market now accounts for considerably more exports than Kismayo port. The location and operation of these boreholes should be planned in collaboration with the community-based grazing associations recommended above.

d. Roads

A capital investment program for roads in the region should extend the main highway network to link Kismayo with Libooye on the Kenya border, and to Baydhabo to the north. Ongoing activities should concentrate on improving the maintenance of existing roads and tracks. More labor intensive methods of road maintenance and repair and more appropriate standards of construction should be adopted. Priority should be given to upgrading and maintaining the road between Kismayo and Afmadow so that it can be used all year. The emphasis in road construction and maintenance should be on improving market town access and linking urban centers.

e. Power

It would not be difficult or expensive to extend the electricity grid from Fanoole beyond Kamsuuma to Jamaame, hooking up other settlements along the route of the grid. Some investment would be required to upgrade the distribution network in the town and to replace an ageing generator for use when Fanoole is unable to operate. Provision of power to these settlements would raise productivity among existing enterprises and spur new nonfarm businesses.

f. Telecommunications

Telecommunications should be restored between Kismayo and Mogadishu and improved to include telex and fax capabilities. These are not major investments; they will enhance Kismayo's capacity to support long-distance transactions and thereby spur local import-export trade.

g. Water Reticulation for Kismayo Town

Some renovation of the Kismayo water system is scheduled under the port rehabilitation project. Consideration should also be given to increasing the capacity of the system and extending reticulation within the town to support the growth of population and business activity.

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To provide readers with a rough idea of US dollar equivalents of Somali Shilling figures, an exchange rate of SoSh 200 = $ 1.00 has been used for conversions indicated in parentheses. The unofficial exchange rate ranged between 180 and 270 during the study period of March 1987 - February 1988, but was in the general range of 200 for much of that time.

PART ONE

THE REGIONAL ECONOMY

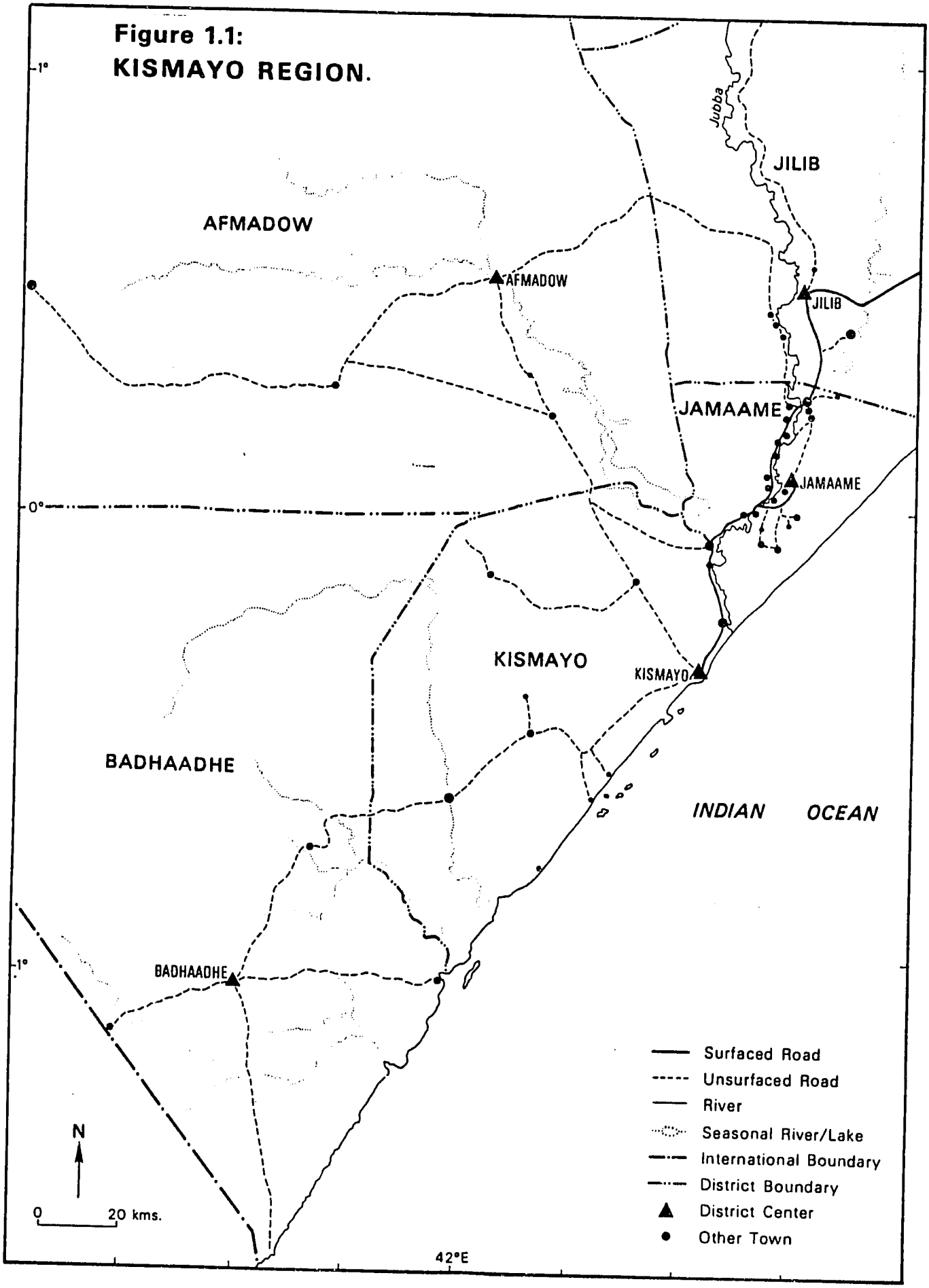


Figure 1.1:
KISMAYO REGION.
1°
0°
1°
42°E
AFMADOW
AFMADOW
JILIB
JILIB
Jubba
JAMAAME
JAMAAME
KISMAYO
KISMAYO
BADHAADHE
BADHAADHE
INDIAN OCEAN
N
0
20 kms.
Surfaced Road
Unsurfaced Road
River
Seasonal River/Lake
International Boundary
District Boundary
District Center
Other Town

2

CHAPTER I

INTRODUCTION

A. OBJECTIVES

The objective of this study was to provide an account of the main characteristics of the Kismayo regional economy for use by the Government of Somalia, the USAID Mission in Mogadishu, and other agencies concerned with development in the region. Hence, this report aims: 1) to document the key economic activities of the region and their contribution to household income; 2) to pinpoint potential opportunities for raising output and productivity, facilitating the expansion of private business, and spurring the creation of productive jobs; and 3) to identify and evaluate alternative interventions by the public sector that would help raise household incomes and accelerate economic growth in the region. The unique approach of this study called for a focus on the linkages and development interdependencies between towns and their rural hinterlands, in order to determine key points in a regional economy that provide potential leverage for raising incomes and promoting sustainable economic growth in the region.

B. THE STUDY REGION

Originally, the boundaries of the region to be examined in this study were broadly defined as a rectangle, with one side extending along the coastline about 100 kilometers north and south of Kismayo, and the other parallel side running 100 kilometers inland. This territory encompasses the eastern portion of Badhaadhe District, the southern portion of Afmadow District, the whole of Kismayo District, Jamaame District in the Lower Jubba Administrative Region, and Jilib District in the Middle Jubba Administrative Region (see Figure 1.1).

In practice, the boundary of the study region has been expanded or contracted to fit economic realities of the particular activity under investigation. Currently, a major share of livestock trade is with Kenya, for example, and no study of these activities would be complete without following events to the Kenyan border, and even beyond to Garissa, the major market center for this trade. Likewise, given the manner in which much secondary data are compiled and published, it was often necessary to undertake analyses in terms of the five districts on which the original study area impinged. On the other hand, by far the greater part of small farm production is located in Jamaame District, and thus the field survey of farm households was largely restricted to that district.

C. RESEARCH QUESTIONS

Within Somalia, the Kismayo Region is considered to have substantial potential for development. However, those concerned with planning and promoting its development, such as policy makers and program managers in the

Somali government and the donor community at large, are hampered by a general lack of information about the region. They need to know more about the nature of the local economy, for example: how productivity, jobs, and incomes might be spurred; and how expanded production of its key commodities - livestock, grains, or bananas - might affect employment opportunities and the growth of new activities in the region.

These policy-oriented questions translate into a number of general research issues concerning the key economic activities of the region. In terms of production, for example, what are the main income generating activities in the region? What are the backward and forward linkages associated with each of these activities? What bottlenecks constrain growth in individual sectors and areas of the region? What opportunities exist for relieving these constraints and spurring new growth? In terms of employment and incomes, what are the main sources of livelihood in the region? What impact do the principal economic activities have on household incomes? What scope is there for multiplying the household income benefits and creating new jobs and business opportunities? In terms of the geography of the region, where are the principal economic activities located? To what extent is rural production generating new urban activities, and how are these distributed in the region? Such questions point to the need for more detailed knowledge of the price, availability, and source of inputs for rural production, the destination of rural produce, the extent to which value is added to it within the region, and the composition and location of consumer spending. All this and more is covered in the following chapters.

D. THE SARSA RESEARCH METHODOLOGY

The analytical methodology used in the Kismayo regional study is based on SARSA's Rural-Urban Exchange (RUE) research framework. This framework takes agricultural (including livestock) production as the lead economic activity in the income generation and development process. The basic proposition behind the RUE framework is that economic exchange between farms (and herders) and towns is the main engine of broad-based income generation in rural areas, and rural economic growth is therefore most effectively fostered through measures that enable farms and towns to expand their roles as suppliers and markets for each other.

Under the RUE framework, farm-town exchanges are considered in three broad categories: exchanges related to marketing agricultural commodities, exchanges related to purchasing agricultural inputs, and exchanges related to household expenditures. In the first instance, income is generated by marketing agricultural commodities. That income is multiplied into additional income, particularly for people in towns in the area, when it is spent locally on agricultural inputs and farm household goods and services. It is multiplied still further when it is "respent" locally on inputs to town-based activities and on goods and services for town households.

From this is derived a methodology for identifying interventions that entails three steps: (a) field surveys to document the three categories of farm-town exchange and the local income multiplication effects associated

with them; (b) analysis of the data for indications of potential interventions to strengthen local income generation in the three categories of exchange; (c) further analysis to derive a set of preferred potential interventions at specific locations in the area.

Rather than viewing agricultural production as a broad aggregate, SARSA adapts the basic methodology to a particular rural area by concentrating field research on the rural-urban exchanges and income multiplication effects linked to key commodity systems in the region. Under the RUE framework, the term "commodity system" refers to the system of production, marketing, input supply, and household expenditures associated with a particular agricultural commodity. In other words, a commodity system is made up of the three categories of rural-urban exchange as linked to a specific farm commodity.

By restricting attention to a small number of key commodity systems, field research may be limited to economic exchanges associated with those activities that generate most of the income in the region, either directly or indirectly. This makes it possible to cover the most important economic activities in the area, from a rural-urban exchange perspective, with a limited research budget. It also means that the interventions ultimately identified will be ones that improve the income generating capabilities of important systems of production and exchange already working in the region. These interventions will therefore tend to be of a type that makes it possible for farmers and other entrepreneurs to increase their incomes through measures that build on existing skills and activities.

For the Kismayo Region, maize, bananas, and livestock were selected as the key commodities. Maize was selected because it is a staple food among the population, grown by virtually every farm household, and also because the Kismayo Region includes one of the major maize producing areas in the country. Some think the area may one day be capable of producing large enough surpluses to feed people in many other parts of the country. Bananas were selected as another key commodity not only because it is the major cash crop of the region, but also because it represents one of Somalia's main agricultural exports and a principal source of foreign exchange earnings. Livestock was selected for similar reasons: it is the single most important commodity in the region, measured both in terms of value of production and foreign exchange earnings, and it is the livelihood for about one third of the region's population. During the course of the study, the livestock "commodity" was refined into two specific key commodities, cattle and milk.

Information was collected from three main sources. The first source was interviews with people in the region, in Mogadishu and elsewhere, including district, regional, and central government officials, representatives of public agencies, local business and private organizations, as well as numerous development specialists and others. The second source was a great variety of reports, studies, and other documents prepared by the Directorate of Statistics in the Ministry of National Planning, other government ministries and public agencies, the World Bank, bilateral donors, and private consulting firms. The third source was a series of structured

field surveys covering agriculture, livestock production, and the urban sector.

For agriculture, team members carried out surveys of 110 farm households, some 40 maize traders, and ten banana plantations. The farm household survey covered clusters of farms in 15 villages in Jamaame and Kismayo districts to collect data on the production and marketing of maize and consumption expenditures by farm households. The survey of traders sought to determine the main channels for marketing maize within the region and beyond and to obtain a range of prices for buying and selling. The survey of plantations was designed primarily to elicit information on the costs and revenues associated with banana production.

In the livestock sector, the main instrument was a survey of herder households. These households were visited on two occasions, once in the dry season and again in the wet season. Despite the difficulty of locating households on the move, team staff succeeded in interviewing members on both occasions and collected data on production costs, sales, and expenditures. In addition, structured interviews were conducted with numerous traders and intermediaries to document the characteristics of different livestock markets, and data were obtained on sale prices at a number of marketplaces at regular intervals over a period of several months.

For the urban sector, the study team carried out surveys of 44 settlements throughout the five districts--83 urban households in the three largest towns of Kismayo, Jamaame, and Jilib, 166 retailers and wholesalers, and 105 marketplace vendors. The settlement survey was designed to collect information on physical infrastructure, services in support of agriculture and livestock production, commerce, and other urban activities. Urban households were polled primarily to collect data on employment, business activities, and consumption expenditures. Retailers and vendors were asked for information on the items they traded, including sources of supply and buying and selling prices.

Behind this data collection exercise lay three tasks. The first was to build a broad picture of the economic environment within which producers, traders, and consumers make decisions. Of special concern here are macroeconomic variables and national policies affecting agriculture, livestock, and trade, and the major institutions involved in these activities. The second task was to document current activities of farmers, herders, traders, consumers and other key actors under the present economic environment and to gain an understanding of the factors that influence their decisions. Particular attention was paid to producer use of inputs, levels of output and productivity, the operation of marketing channels for the key commodities, and the composition of household consumption expenditures. The third task was to record the spatial dimensions of economic activities in the region and particularly the characteristics of the transactions taking place between urban and rural areas. Of special interest here are the roles of small towns in the production and marketing systems for the agriculture and livestock sectors, the impact of household spending on nonfarm activities, and the flow of savings and investments between sectors and between towns and rural areas.

E. OUTLINE OF THIS REPORT

This report is structured in three parts. After this introductory chapter, the first part provides a description of the main features of the regional economy, arranged in four chapters. Chapter II presents a preliminary overview of the region as a whole and reviews the natural resource base, recent changes in the composition of population and employment, and the main components of production. Chapter III describes two quite distinct production systems within agriculture: the small farms, which are devoted primarily to feeding the family; and the commercial estates, which are concerned with the production of cash crops, such as sugar, rice, and especially bananas. Chapter IV, on the livestock sector, identifies several operationally distinct systems of production associated with cattle and camels and the marketing of milk, meat, and live animals; and it reviews the institutions and policies that bear upon these activities. Chapter V, on the urban sector, sketches the dimensions of the settlement hierarchy based on an analysis of services and facilities in each place; it discusses recent changes in manufacturing in the region and nonfarm activities in Kismayo town; and it reviews the availability and condition of physical infrastructure.

The second part of this report focuses on the heart of the present enquiry, rural-urban exchange. After a short introduction on the conceptual framework of the analysis, there follow four chapters examining in detail the nature of the production and marketing systems associated with the key commodities, maize, bananas, cattle, and milk. Chapters X and XI of part two of this report draw the separate threads together, and build an aggregate picture of income multiplication potentials as a result of the exchanges between urban and rural areas within the region, and between the region as a whole and the outside world. Chapter X looks at the exchanges associated with production and marketing of the four commodities and traces the distribution of revenues from each of them to traders and producers, and the shares that accrue to large towns, small towns, rural areas, and herders. Chapter XI does the same thing for consumption expenditures, tracing the destination of spending by each type of household, estimating the flows of income and spending between towns and rural areas, and sketching out the nature of household investments and the transfer of resources between urban and rural areas.

The last part of this report provides an overall summary through examination of regional development objectives and a review of possible development interventions including policy improvements, institutional measures, and physical capital. The emphasis is on measures that will increase production and returns in the sectors with greatest strength in the region, enabling the increased income to be further multiplied throughout the towns and rural areas.

Appendix A gives an account of ocean fishing and the activities of the Somali Marine Products plant in Kismayo. Appendix B explores the potential for community-based initiatives in providing and maintaining physical infrastructure and certain services at the village level.

CHAPTER II

OVERVIEW

A. INTRODUCTION

This chapter provides an overview of the main characteristics of the Kismayo Region and its economy. The information comes mainly from secondary sources, supplemented and updated with additional information collected during the course of the present study. The main secondary sources referred to in this chapter are publications and reports from the Central Statistical Department and other agencies of the Government of Somalia, and several studies and reports on specific topics prepared by consultants for the government. Notable among these is the recently completed first volume of the Masterplan for Jubba Valley Development prepared by Agro und Hydrotechnik for the Ministry of Jubba Valley Development.

Given the general scarcity of primary data collection in the region, most measures of the economy have to be estimated from sample information. To help the reader evaluate the figures included here, methods of estimation are usually explained in some detail.

B. CLIMATE

1. Seasons

The regional climate may be classified as tropical semi-arid. Though the year is divided into rainy and nonrainy periods, four different seasons can be distinguished:

Jilaal:	from December to April, generally hot and dry;
Gu:	from April to June, the longer of the two wet seasons;
Xaga:	from June to September, when light showers may occur;
Der:	from September to December, the short wet season.

2. Temperature

The average annual temperature is 27-28 degrees Centigrade with slight variations throughout the year and increasing towards the north. The average monthly temperature ranges between 26 degrees C in July to 29 degrees C in March. Diurnal and seasonal variations of temperature increase slightly with distance from the sea. Due to the low altitude, temperatures throughout the region do not fall low enough to have a negative effect on crop production.

C. WATER RESOURCES

1. Rainfall

Rainfall occurs in the Gu and Der seasons, but its distribution is irregular. The rainy seasons are generally of similar duration, the Gu being 35-45 days and the Der 40-45 days. Both the timing and amount of rain vary seasonally and by location. During the Gu for example, in Jamaame, rainfall is often plentiful but unpredictable, while during the Xaga, rainfall is reliable though scarce. Annual average rainfall varies from a high of around 750 millimeters at Mareerey to a low of 400 millimeters at Kismayo (see Figure 2.1). Rainfall at Mareerey during the Gu and Der in general, is predictable and significant; in fact it is the highest and most reliable rainfall in the country. Farther east and south in Jamaame rainfall is less reliable and less plentiful. The contrast is illustrated in Table 2.1, despite the fact that the data refer to an unusually dry year.

TABLE 2.1: RAINFALL IN LOWER JUBBA (mm/year)

Month	Location	
	Mareerey	Jamaame
April	55	0
May	60	20
June	25	30
July	25	10
Gu Season	165	60
November	25	0
December	0	0
Der Season	25	0
Total	190	60

Source: AHT, 1987

Rainfall contributes to soil moisture, to surface run-off into the Jubba River, and to a certain extent, to recharging groundwater. Though only comprising a small fraction of the total water resources of the river, this rain is important in that it can cause flooding of areas immediately adjacent to the river, especially in the middle and lower reaches of the valley. It also contributes effectively to agricultural production in both rainfed and irrigated areas. The average yearly contribution of rainfall to the Jubba River flow has been estimated at 240 million cubic meters.

Rain is an important water resource but with a potentially negative effect. While benefiting rainfed and irrigated agriculture in average to dry years, it may cause flooding in the Mareerey-Jilib-Hombooy area of the river basin.

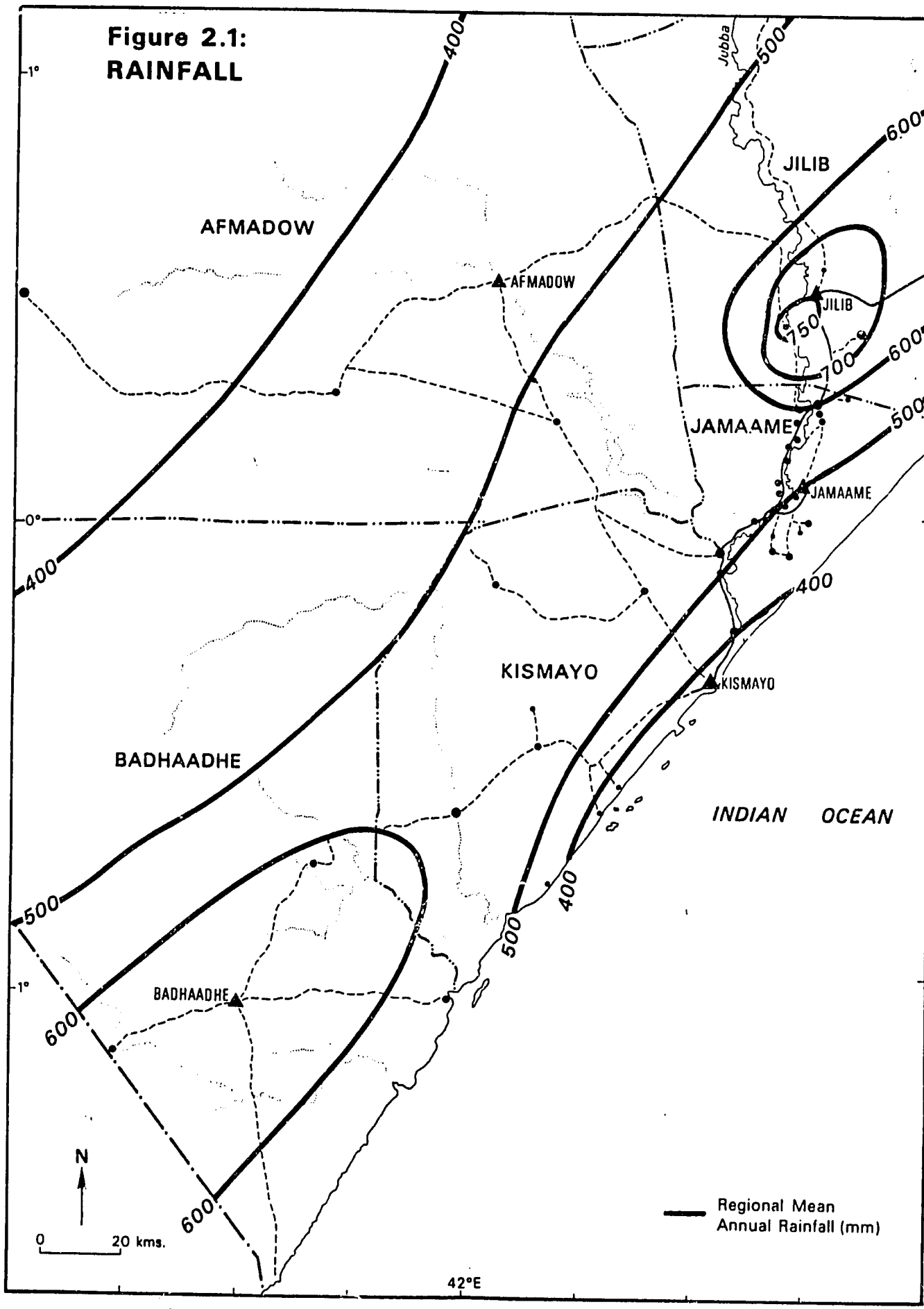


Figure 2.1:
RAINFALL
1°
0°
1°
42°E
AFMADOW
AFMADOW
JILIB
JILIB
JAMAAME
JAMAAME
KISMAYO
KISMAYO
BADHAADHE
BADHAADHE
INDIAN OCEAN
Jubba
400
500
600
750
700
600
500
400
400
500
400
500
600
600
N
0
20 kms.
Regional Mean
Annual Rainfall (mm)

2. The Jubba River

The Jubba River is formed from three tributaries that rise in the Ethiopian highlands and join in the area of Dolow at the border between Somalia and Ethiopia. The flow pattern of the river varies seasonally with an annual average of 203 cubic meters per second (cms). The highest measured monthly discharge was 991 cms in November 1977, and the lowest in March of 1980, was less than 4 cms. There is a high degree of variability in annual river flow.

Table 2.2 shows the bimodal nature of the river flow with peaks in May and from September to November. Short floods can occur in April and May, while more sustained floods occur from October to November. Flooding is a common occurrence and in recent years has been more prolonged.

TABLE 2.2: ANNUAL AVERAGE DISCHARGE OF THE JUBBA RIVER

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Volume#	120	71	100	327	637	401	498	739	775	1224	940	367	6199
Discharge@	47	30	39	128	241	159	189	279	299	462	368	203	142

Volume in millions of cubic meters
@ Discharges in cubic meters per second
Source: AHT Report, 1987

Manually pumped diversions for irrigation have an important effect on the natural river flows during low flow periods. Demand generally exceeds the available flows during several consecutive months, usually during the dry season. This means that for the critical periods of January to April, river discharges in the Lower Jubba are reduced almost to zero, allowing salt water to intrude from the sea. During the Gu, one or two salt water crests occur that last a few days. This has implications for irrigation, since applying saline water to plants is deleterious to them, and it can have long-term effects on soil fertility. Irrigation is the primary use of water from the Jubba River, while human consumption is its second most important use.

3. Groundwater

Groundwater is found throughout the region at different depths, but its quality varies locally depending on the rock formations in which it is found. There are wells of various depths, some with motorized pumps or hand operated pumps, and others that are hand dug. Both types are sources of drinking water for the local human population and for watering livestock. Other water sources include:

a) watering points along the river bank where people and livestock can gain access to the water;
b) river flood plain depressions (deshegs) which hold standing water for several months after flooding has occurred; they serve as sources of drinking water and farmers plant crops around the perimeter as the water line recedes;
c) wars, are large machine or hand-dug basins that collect seasonal rainfall both for human and animal consumption.

Many sources of water in the region, whether from river, groundwater, or catchments, are polluted and unhealthy for human consumption.

D. LAND USE

Much of the agriculture in the region is concentrated along the river, between Jilib and the mouth of the river near Goob Weyn. Large agricultural development schemes are situated along the river just north and south of Jilib, while banana estates occupy land below Kamsuuma to Goob Weyn. Nearly all of the river bank is occupied by either banana estates or the schemes, where river water is accessible for irrigation. Relatively little area is left that is accessible to local farmers or herders.

Rainfed agriculture takes place on areas to the west of the river in Jamaame and Kismayo districts. Production here is dependent on rainfall, which, as mentioned, is variable and unpredictable. Other production in the deshegs, particularly Desheq Waamo, takes place near the river, in low areas that are flooded annually. The area covered by the annual floods varies, and the number of hectares cultivated varies accordingly.

Livestock production takes place mainly to the west of the river. The production system is characterized by seasonal movements of nomads with their herds. They move from the south near the river during the dry season, to the northwest of Afmadow town and the north of Kismayo District during the wet season, when pasture is plentiful. Rainfall patterns determine these movements with vegetation patterns changing along with the availability of surface water for herds.

E. POPULATION

Population figures for the region are available from the 1975 census, but at the time of this study the results of the 1986/7 census had not been published. The figures estimated in this report for the settled population - those living in urban and rural areas - are based on a preliminary count of households in each settlement, which was conducted in preparation for the recent census. This household count was multiplied by the average household size as revealed in the field surveys of urban and farm households. The urban average of 6.69 members per household was applied to all settlements with more than 2,000 inhabitants and the farm average of 8.1 members to all smaller settlements. Since farm households are larger on average than urban

ones, and many of them reside in so called "urban" settlements, this method probably under-estimates the actual population in urban areas.

The method used in the census to estimate the herder population is to count households visiting watering points during a two-week period in the dry season. Since the number of herders in the region clearly varies over a wide range, the figures for 1986 are simply the 1975 figures multiplied by an estimated average annual rate of natural increase of 2.8 percent adopted in the AHT report. In the 1975 census, the "urban" sector was defined as comprising only district centers, while the "rural" sector included all other settled population. In Table 2.3 these definitions are retained, in order to allow comparison of the 1975 figures with those of 1986.

According to the results, the annual rate of population increase for both district centers and other settlements is above the rate of natural increase, which suggests that the settled population of the Kismayo Region is gaining from net in-migration. The annual increase of 5.3 percent for other settlements is unusually high, given the normal pattern of out-migration to larger urban areas. The outward flow is evidently being more than offset by new arrivals. Given the decline of banana production during the period in question, and the consequent drop in demand for labor, coupled with traditional constraints that make it difficult for outsiders to purchase land, it seems unlikely that much of the gain in the settled population is from in-migration from other regions into agriculture. Judging from the survey of retailers, however, there do appear to have been significant gains from in-migration from other regions into commerce among the small towns of the region.

TABLE 2.3: ESTIMATED POPULATION 1975 - 1986

District	Dist. centers		Other settled		Herder		Total		Annual change
	1975	1986	1975	1986	1975	1986	1975	1986	
Afmadow	2883	5391	3982	14878	33259	45064	40124	65333	4.5%
Badhaadhe	1448	2708	3871	14186	19423	26317	24742	43210	5.2%
Jamaame	11517	18732	45497	59841	7985	10819	64999	89392	2.9%
Jilib	7025	20070	26304	51817	21530	29172	54859	101059	5.7%
Kismayo	30115	52182	12248	22128	10669	14456	53032	88766	4.8%
Total	52988	99083	91902	162849	92866	125829	237756	387760	4.5%
Annual growth rate:		5.9%		5.3%		2.8%		4.5%	

A large part of the gain in the region's settled population, however, appears to be among herders who are taking up farming in the rural areas, seeking employment, or starting businesses in urban areas. Other things being equal, this would suggest a net growth rate for the nonsettled herder population less than the rate of natural increase of 2.8 percent. However,

as is explained in Chapter IV, there appears to have been a significant increase in the herder population in the region during the 1970s, at least up until 1980. Hence, shifts of herders to settled lifestyles has been offset by in-migration of unsettled herders from other parts of the country. In any case, any gain or loss in the herder population of the region is likely to be highly volatile, given the many factors which determine the movement of livestock herds.

In Table 2.4, the settled population is reclassified as either "urban," being those places with more than 2,000 people, or "rural," those with smaller populations. In the absence of more detailed information, the figures for 1975 have not been changed, except for Badhaadhe which was below the urban threshold. In practice, at that time, district centers were almost synonymous with urban areas, since, with the exception perhaps of Mareerey, there were probably few other places with more than 2,000 people.

Based on this analysis, it appears that the urban population has grown dramatically at a rate of over 11 percent per year, while the rural population has barely advanced at 0.4 percent per year. This does not mean, however, that rural areas have necessarily been experiencing massive out-migration. The slow growth rate is largely explained by the reclassification of some 20 settlements, representing 28 percent of the 1986 total, from rural to urban, once they pass the threshold of 2000 inhabitants.

TABLE 2.4: URBAN AND RURAL POPULATION IN KISMAYO REGION 1975 - 1986

	Urban		Rural		Urban + rural		
District	1975	1986	1975	1986	1975	1986	change
Afmadow	2883	10743	3982	9526	6865	20269	10.3%
Badhaadhe	0	6655	5319	10238	5319	16893	11.1%
Jamaame	11517	33116	45497	45457	57014	78573	3.0%
Jilib	7025	47466	26304	24422	33329	71887	7.2%
Kismayo	30115	66331	12248	7979	42363	74310	5.2%
Total	51540	164310	93350	97621	144890	261931	5.5%
Annual growth %		11.1%		.4%		5.5%	

F. MIGRATION

Information from the 1975 population census on place of birth and usual place of residence cannot be used to derive conclusions about patterns of migration in or out of the region, since the tables make no distinction between the settled and unsettled population. The large seasonal movements of herders obfuscate the migration flows of the settled population. However, some clues on migration into the larger towns of the region may be

derived from the survey of urban households in Kismayo, Jamaame, and Jilib towns, in which heads of each household were asked where they previously resided (see Table 2.5).

According to this source, more than a quarter of the household heads in these three towns have moved into the region from other parts of the country or abroad. This indicates that the larger towns do attract a substantial number of people from far afield, although no information is available to measure the proportion of residents who leave to settle elsewhere. More than half the residents of the three major regional towns were born there, while about a sixth previously lived elsewhere in the region. A remarkably low proportion moved into town from surrounding areas in the same district, suggesting the move may not be worth the trouble.

Kismayo and Jilib are attracting far more in-migrants than Jamaame. Whereas only 12 percent of household heads in Jamaame come from outside the town, the proportion rises to half in Kismayo and as high as two-thirds in Jilib. Both Kismayo and Jilib attract more people from outside the region than from inside.

TABLE 2.5: CURRENT AND PREVIOUS RESIDENCE OF HEADS OF URBAN HOUSEHOLDS, 1987.

Previous residence	Current residence			
	Jamaame	Jilib	Kismayo	Total
Same town	88.2%	33.3%	50.0%	54.2%
Outside town within district	.0%	.0%	2.1%	1.2%
Outside district within region	11.8%	27.8%	14.6%	16.9%
Outside region	.0%	38.9%	33.3%	27.7%
Total:	100.0%	100.0%	100.0%	100.0%

The great majority of migrants, four out of five, came for reasons associated with their work or in search of better employment or business opportunities (see Table 2.6). The next most frequently mentioned reason for moving to the larger towns, particularly to Kismayo, though not to Jamaame, is for education purposes as parents search for better schools for their children. Only a small fraction of household heads moved for family reasons.

G. EMPLOYMENT

The figures for the sectoral composition of employment in 1975 presented in Table 2.7 are indirectly derived from the 1975 population census. The census itself shows the distribution of working population among twenty

TABLE 2.6: REASONS FOR IN-MIGRATION TO THE KISMAYO REGION 1987

Reason for move	Current residence: Jamaame	Jilib	Kismayo	Total
Job-related	100.0%	83.3%	79.2%	81.6%
Family	.0%	8.3%	.0%	2.6%
Education	.0%	8.3%	12.5%	10.5%
Other	.0%	.0%	8.3%	5.3%
Total:	100.0%	100.0%	100.0%	100.0%

industries represented by a two-digit code, but provides no explanation of the codes. However, by referring to the analytical volume of the population census, which includes a similar table showing the percentage distribution of urban and rural working populations, it is possible to infer approximately which codes correspond with eight main industrial categories. Table 2.7 combines the figures for urban and rural areas, and shows the percentage distributions for both the nation and what was then the Lower Jubba Region, which corresponds to the five districts of the study area.

TABLE 2.7: REGIONAL AND NATIONAL EMPLOYMENT BY SECTORS 1975

Sector	Region: Number	Region: percent	Nation: Number	Nation: percent	Location Quotient
Agriculture	13789	63.5%	173124	65.0%	.98
Mining	6	.0%	98	.0%	.75
Manufacturing	915	4.2%	8331	3.1%	1.35
Construction	89	.4%	1079	.4%	1.01
Utilities	26	.1%	479	.2%	.67
Commerce	1044	4.8%	12304	4.6%	1.04
Transport & communications	332	1.5%	2297	.9%	1.77
Services (inc FIRE*)	5511	25.4%	68727	25.8%	.98
Subtotal:	21712	100.0%	266439	100.0%	
Not specified	5122		40442		
Total:	26834		306881		

* FIRE = finance, insurance, and real estate.
Source: Population census, 1975.

As Table 2.7 shows, some two-thirds of the region's settled population in 1975 was engaged in agriculture and a further one-quarter in the service sector. The only other sectors of any significance are manufacturing and commerce, with 4 percent and 5 percent of the economically active population, respectively. A comparison of the regional percentages with the national percentages, represented by the location quotients in the right hand column, indicates that the make-up of the region's economy at that time was close to the national average, especially in the two largest sectors, agriculture and services. The location quotients greater than unity for manufacturing, and transport and communications imply that these sectors are relatively more developed in the region than other parts of the country. They reflect the presence of the manufacturing establishments mentioned earlier, particularly the Jubba sugar factory, and the Kismayo port.

The sectoral composition of employment among the settled population of the same five districts was also estimated for 1987. These are presented in Table 2.8 and were derived in the following manner. First, a labor participation ratio was calculated from the survey of urban households, which represents the proportion of all resident household members that were reported to be currently working, either as employees or in family businesses. An estimate of the economically active population in urban and rural areas was then obtained by multiplying the total population by this ratio. Given the difficulties of computing a labor participation ratio for farm households, the urban ratio was also applied to the rural population.

The breakdown of the working population by sectors is based on information from the surveys of urban and farm households. For urban households, the primary occupation of members is usually well defined, but for farm households the situation is often less straightforward. All farm households by definition operate a farm, but many derive a substantial portion of their income from off-farm employment or businesses. Since the urban survey covered only the three largest towns, the percentage distribution for urban households was assumed to apply only to those towns. The farm survey, however, included rural areas as well as smaller towns, and so the distribution for farm households was assumed to apply across all settlements other than the three largest. The figures for the urban sector, therefore, represent a weighted combination of the large towns and smaller towns with populations greater than 2,000.

Based on this analysis, the labor participation ratio is estimated to be 24 percent, which is quite low and may reflect an underreporting of people who work without pay in family businesses or those who work intermittently as casual laborers when conditions permit. Nevertheless, this ratio produces an estimate of the working population in 1987 of 64,000, compared to a figure of only 27,000 in 1975, which is also probably an underestimate.

When the sectoral composition of employment in 1987 is compared with 1975 (Tables 2.7 and 2.8), it becomes clear that there have been significant shifts in the regional economy. Employment is down almost 10 percentage points in agriculture, from 63 percent in 1975 to 54 percent in 1987, and up 5 points in manufacturing to 9 percent. The service sector share,

meanwhile, has shrunk dramatically from 25 percent to 13 percent. Since the 1975 census does not define which activities are included in each sector, it is difficult to explain this decline. One possibility is that the earlier figure may have been inflated by the inclusion of domestic servants; another is that employment in government may have remained steady during the interim, or even declined somewhat. On the other hand, employment in commerce is up a substantial 10 points to 15 percent, a trend which is also reflected in the analysis of business activity in Kismayo town (see Chapter V), and probably related to recent government measures for liberalizing the economy.

TABLE 2.8: ESTIMATED EMPLOYMENT BY SECTORS 1987

	Urban		Rural		Total	
Estimated population	164310		97621		261931	
Population age 15-60	84981		50490		135471	
Labor participation	24.3%		24.3%		24.3%	
Economically Active	39960		23741		63702	
Sector	Number	%	Number	%	Number	%
Agriculture	17469	43.7%	17170	72.3%	34639	54.4%
Manufacturing	4279	10.7%	1484	6.3%	5763	9.0%
Construction	652	1.6%	636	2.7%	1287	2.0%
Utilities	174	.4%	0	.0%	174	.3%
Commerce	7747	19.4%	2120	8.9%	9867	15.5%
Transport & Comms	1695	4.2%	636	2.7%	2331	3.7%
FIRE	1104	2.8%	0	.0%	1104	1.7%
Services	6841	17.1%	1696	7.1%	8537	13.4%
Total:	39960	100.0%	23741	100.0%	63702	100.0%

H. PRINCIPAL ECONOMIC ACTIVITIES

The principal economic activities in the study region that generate the basic income for the area are farming and livestock herding. In urban areas, there is some manufacturing, but it is of relatively minor importance. Most of the urban population earns its living in some way from commerce, transportation, or services. Simple measures of the region's contribution to national production are given in Tables 2.9, 2.10, and 2.11. Each of these activities is discussed in greater detail in subsequent chapters.

1. Agriculture

Agriculture in the Lower Jubba Valley has a dualistic structure with a traditional, low technology, small farm sector existing side by side with

relatively modern, large-scale, public and private farming enterprises producing rice, sugar, and bananas. Areas close to the river have been the sites of villages inhabited by farmers who emigrated from farther south in Tanzania and Kenya up to 200 years ago, and where herders who lost their herds during more recent periods of drought settled to become farmers. Banana estates are widespread today throughout the lower portion of the valley, though their importance for both the regional and national economies has fluctuated since their creation in the 1920's by Italian farmers. In recent years, the government has funded a number of large-scale projects for the production of rice, sugar, and other crops in an effort to develop the valley. Agriculture is practiced the length of the river in the study area, but most cultivation takes place within a few kilometers of the river banks. Agriculture occupies the large majority of the people in the region, and contributes a significant part of the nation's agricultural output (see Table 2.9).

TABLE 2.9: LOWER JUBBA VALLEY CONTRIBUTION TO NATIONAL AGRICULTURAL PRODUCT

Crop	Average Yield (Tons/Ha)	Total Jubba Valley Production (000) tons	Production (000) tons	Percent of Total
Maize[a]	.7	382	33	8.6%
Sesame[b]	.5	52	8	15.4%
Bananas	19.3	60	25	41.7%
Rice	2.1	12	7	58.3%
Sorghum[b]	.5	251	61	24.3%
Sugar	53.3	43	43	100.0%

Sources: (a) Study estimate. (See Chapter VII)
All other figures from AHT, 1987
(b) Refers to all Jubba Valley

2. Livestock

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 2.10, 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 Badhaadhe districts are the largest cattle-producing areas.

TABLE 2.10: NATIONAL AND REGIONAL LIVESTOCK POPULATION (000s)

Livestock type	National herd	Study region herd[a]	Percent of national
Cattle	4463.8	1100.0	24.6%
Camels	6703.3	214.6	3.2%
Goats	18870.7	229.8	1.2%
Sheep	11246.8	57.0	.5%

Notes:
(a) The estimates are based on Murray Watson survey 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 estimates. National herd estimates are based on Janzen (1988).

3. Manufacturing

Manufacturing in Somalia is still at an early stage of development, and most modern plants are clustered around Mogadishu (see Table 2.11). Outside Mogadishu, however, the Kismayo Region appears at first sight to be one of the few other major manufacturing areas of importance. According to the Industrial Production Survey of 1985, the Kismayo Region accounts for close to a third of the nation's employment, earnings, and value added, and over half of capital investment as measured by the cost of acquisitions during that year.

A closer look, however, reveals that this first impression is somewhat misleading. The study region possesses only 11 of the 193 establishments

TABLE 2.11: MANUFACTURING IN KISMAYO REGION AND THE NATION, 1985

Variable	Jubba sugar	Kismayo region		Mogadishu region		Nation
		number	% total	number	% total	number
Number of estabs	1	11	5.7%	141	73.1%	193
Number of workers	3632	4379	33.1%	5129	38.8%	13235
Earnings (Ssh000)	74800	94597	32.3%	132887	45.4%	292458
Acquisitions (Ssh000)	73800	148726	52.5%	123445	43.6%	283275
Value added (Ssh000)	542085	580682	32.8%	1086898	61.3%	1772175

Source: Ministry of Planning, General Directorate of Statistics, Industrial Production Survey 1985.

included in the survey, and one of these, the Jubba sugar factory, alone accounts for a large part of the regional totals, including half the cost of acquisitions, four-fifths of earnings and employment, and over 90 percent of value added.

I. PUBLIC INSTITUTIONS

1. Local Government

Until recently, the five districts of the study area fell under a single administrative region. A few years ago, a new region was established for the Middle Jubba which now includes Jilib District. The remaining four districts of the study area - Kismayo, Jamaame, Afmadow, and Badhaadhe - now come under the jurisdiction of the Lower Jubba Administrative Region, which has its offices in Kismayo town. The Ministry of the Interior appoints the governor, the assistant governor, and the district commissioners, who coordinate activities of central ministries. The main functions of the regional administration are to maintain law and order and to coordinate the activities of the central government in the region.

Districts are administered by councils, the members of which are elected every four of five years after being nominated by the Somali Revolutionary Socialist Party. The district council is responsible for both urban and rural areas, since there are no separate municipal authorities for larger towns. The Ministry of the Interior provides a regional coordinator for each region plus a secretary for each district council who can provide some technical assistance.

The primary responsibilities of the councils are to develop the district, to collect local government revenues, and to provide public services. These include street cleaning, garbage collection, marketplaces and slaughterhouses in the settlements, livestock dips in rural areas, water, electricity, and street lighting. They are also responsible for maintaining school buildings and health facilities, and they may provide public housing. In some cases, however, water and power are in the hands of other agencies. In Kismayo town, electricity is provided by the Ente Nazionale Energia Electrica and water by a separate authority under the supervision of the Ministry of Water and Mineral Resources.

In practice, the districts find it difficult or impossible to fulfill their responsibilities, since the financial resources available to them are inadequate. The bulk of local government revenues have to be raised locally, and only exceptionally does the central government supplement these with grants. The principal sources of local revenue include taxes, user charges for water, power, and housing, where these are provided, and fees and licenses on a wide range of business activities. Taxes are levied mainly on: land and buildings; agricultural produce at the point of sale, most notably livestock, maize, fodder, and fuelwood; cargo shipped through the port of Kismayo; and transport levies on all cargo leaving the district. Any tax increases must first be approved by the central government, which has

approved none in the past six years, with the exception of some minor changes to property taxes on impermanent buildings.

District councils are empowered to undertake capital development projects, although given the scarcity of resources, most projects have to be financed through the central government. In recent years, councils have constructed or rebuilt marketplaces, slaughterhouses, and wells, and occasionally they share with the central government the cost of constructing schools and health facilities. They are entitled to assume loans, usually from the Somali Development Bank, but none of the districts in the study region have any loans outstanding at present.

2. Central Government.

In addition to local government units, a large number of parastatals and other agencies of the central government are also nominally responsible for providing public services in the region. Chief among these are: the Water Development Agency for the provision of water for human and animal consumption; the Department of Highways for the construction and maintenance of highways; the Agricultural Development Corporation for grain marketing; the Agricultural Farm Management and Extension Training Program; Somalfruit for banana exports; the Department of Animal Health for veterinary services; and the Kismayo Port Authority. However, what is true for the district councils is also largely true for these agencies. In almost all cases, budget allocations from the central government are inadequate to enable them to fulfill their assigned responsibilities. As a result, services and maintenance operations are curtailed and sometimes suspended indefinitely.

The specific responsibilities and operational problems of each of these agencies, as well as a number of others, are explained in more detail in subsequent chapters.

CHAPTER III

AGRICULTURE

A. INTRODUCTION

This chapter provides an overview of the agriculture sector in the Kismayo Region. It describes the region's contribution to national agricultural production, small farm production of various food crops, the banana production system, and the large-scale agricultural projects that have recently been created in the study region. This information serves as background to further analysis and discussion of specific commodity marketing systems in Chapters VI and VII.

B. CHARACTERISTICS OF THE REGION

The Kismayo Region and particularly the lower part of the Jubba Valley has relatively good soils, ample rainfall, river water available for pump irrigation, and areas that are annually inundated that produce much of the region's maize, sesame, and cotton. However, there is great variation in rainfall amounts and timing; the Jubba River floods almost annually and destroys crops, the river can also run low in the dry season and inhibit irrigation of the large-scale projects and banana fields; and droughts periodically disrupt rainfed production. Production by both large-scale and smallholders is hampered by these conditions.

C. INTER-SECTORAL LINKAGES

Agriculture in the Lower Jubba has a traditional, low technology, small farm sector existing side by side with relatively modern, large-scale, public and private farming enterprises producing rice, sugar, and bananas. The production systems of the larger enterprises and the banana estates do not link up in any significant manner with the traditional sector. Competition for land is currently a minor problem, but one that will likely worsen as the large-scale projects and banana estates continue to expand. Inputs such as fertilizers and pesticides or any technology used on the large projects or the banana estates has had no spillover effect for the region's small farmers, with the exception of tractor hire. The main link between the traditional and modern farm sectors is a shared pool of laborers; members of small farm households often take wage employment on large farms in order to supplement family income.

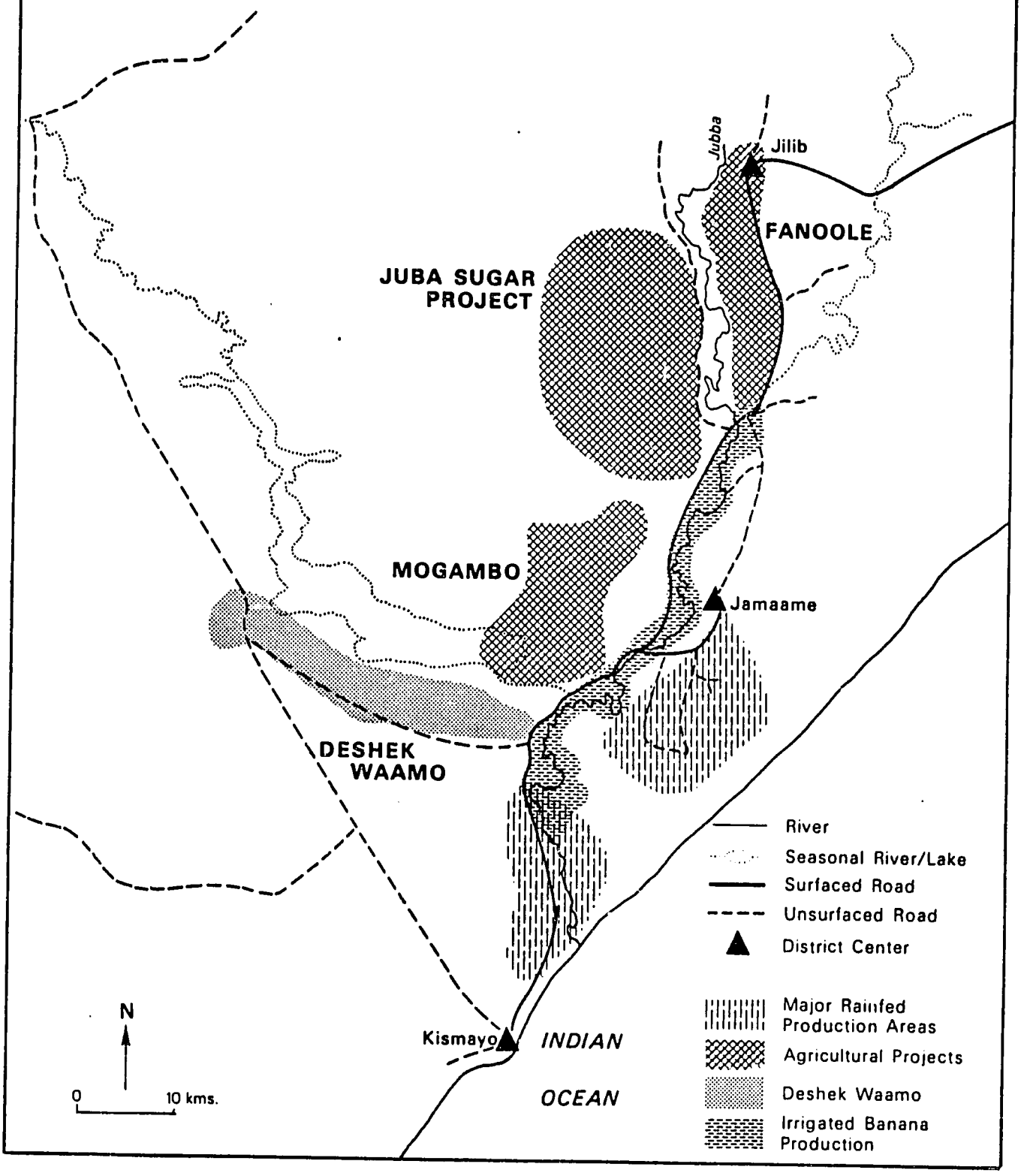
D. The Traditional Small Farm Sector

1. Characteristics of the Production System

Maize is the main commodity produced by nearly all farm households. It is an important staple food, and it is sold to earn cash at harvest time.

Figure 3.1:

LOWER JUBBA VALLEY:
Principle Uses of Agricultural Land



Many farm households produce sesame, principally as a cash crop, and, in a handful of villages near Jamaame, cotton is also a source of farm income. Production takes place on fairly small parcels of land, 2-3 hectares, often of mixed stands of maize and sesame (and cotton if possible). Farmers use only local, unimproved varieties of seeds, almost all production activities are performed by manual labor, and no modern inputs, such as fertilizers or pesticides, are used. Yields remain low under this traditional system, and production is often precarious because of a lack of water or flooding.

2. Land Types

Production takes place on three types of land: a) rainfed lands that are to the west of the river and can be successfully cultivated only when annual rainfall is adequate; b) lands that lie to the south and east of Jamaame town between the river and the coast that are inundated by the river and are rainfed as well; c) desheq Waamo, which is a spring and river fed depression surrounded by fields that are periodically flooded and on which maize and sesame production takes place (see Figure 3.1).

Most of the region's production takes place on inundated land concentrated in Jamaame District. The area is typically flooded each year by overflow from the Jubba River. Because this results in ample soil moisture for plant germination and development, a crop of some kind is produced in most years. This is the area in which most of the agricultural surveys for this study were carried out.

The rainfed areas are productive only when rainfall is plentiful and well-timed. These areas lie to the west of the river and extend toward the drier areas in the direction of Afmadow. When conditions are right, rainfed production contributes significantly to regional production, as it did in 1986, but this only occurs every several years.

Desheq Waamo covers nearly 7,000 hectares. From year to year the amount of land cultivated varies. This low-lying flooded area allows many farmers to produce crops in years when rainfall is inadequate and serves the needs of herders as well.

3. Production Constraints

The small farm sector suffers from three major deficiencies:

a. Lack of Research and Extension

There is some limited agricultural research capability at the national level, but none of any quality at the regional level. Consequently, there are no innovations or solutions to problems based on research that can be offered to producers. Moreover, there is virtually no extension service support.

b. Low-Yielding Technology

The technology used by most farmers is traditional and low-yielding. Moreover, there are no modern inputs available in the region.

c. Deficient Water Management

Because there is no flood control system in the region, periodic flooding devastates crops or prevents farmers from planting. In addition, small farmers have no access to irrigation when there is insufficient rainfall.

E. BANANA PRODUCTION AND MARKETING

Italian farmers introduced banana cultivation in the Jubba during the mid-1920s. It flourished until the second world war, when the British, who controlled the region, compelled farmers to shift to rice cultivation. In the 1950s, Italian farmers recommenced production, which reached a peak in the early and mid-1970s. Production declined after the mid-1970s due to emigration of Italian farmers and the loss of much of the Italian export market during the closure of the Suez Canal from 1967 to 1971. In addition, inconsistent government policies and low prices further discouraged the industry.

Within the last five years, the industry has been revitalized through the creation of a venture between the government of Somalia and private Italian concerns, known as Somalfruit. This is the latest organization that has responsibility for marketing inputs to producers and exporting bananas from Somalia. Somalfruit provides some limited technical assistance, inputs and credit to producers, and it manages the export of bananas.

Bananas are produced on 54 separate estates which are owned and operated by the Ministry of Agriculture, Somali and Italian companies, and private Somalis and Italians. These estates cultivated an estimated 2300 hectares in 1987. Production takes place on irrigated fields, which are first cleared, levelled and prepared by machinery, while production activities, such as planting, weeding, fertilizing and harvesting are performed by manual labor. All the estates are adjacent to the river so fields can be irrigated. Yields in the region are low due to a number of different factors such as a lack of useful agronomic research, soil conditions, seasonal flooding, low river flows, and poor management of the estates. Yields seem to vary from 6 to 21 tons per hectare of exportable fruit, which compares unfavorably with Central and South America, where yields vary from 25 to 50 tons per hectare.

Banana exports from the region in 1987 totaled 22,708 tons, valued at SoSh 429 million. The sector employs an estimated 9,000 people in the region full- and part-time. Despite the high value of banana production, much of the revenue generated leaves the region. This is because Somalfruit purchases inputs outside the region and distributes them itself, and it also

controls export marketing. Moreover, most plantation owners transfer their profits outside the region.

F. LARGE SCALE AGRICULTURAL SCHEMES

1. Fanoole

Fanoole is a large, multipurpose irrigation project which generates hydroelectric power for the town of Jilib and produces rice with a gravity irrigation system. The cultivation areas lie between Jilib and Kamsuuma in the Jilib District. Though 1,600 hectares of land were originally cleared in 1975, it was not until 1984 that land was irrigated with the gravity system. By 1987 only 600 hectares of the proposed 7,500 hectares were planted with rice. It was originally envisioned to double-crop the irrigated areas, but this has never been realized due to lack of water in the dry season.

TABLE 3.1: RICE PRODUCTION FANOOLE

Year	Season	Cropped Area (Ha)	Yield Tons/Ha	Total output (Tons)
1985	Gu	500	4.37	2185
1985	Der	600	4.24	2544
1986	Gu	633	4.13	2614
1986	Der	635	4.41	2800
1987	Gu	850	4.40	3740(a)
1987	Der	850	4.40	3740(a)

Notes: (a) estimates
Source: AHT, 1987

2. Jubba Sugar Project

The Jubba sugar enterprise is run by the Ministry of Industries with foreign management and technical assistance. Its first phase from 1976 to 1982 was supposed to develop 7,200 hectares of sugar cane with a total annual production of 65,000 tons. The original targets were not met on schedule and by 1982 only 70 percent of the planned area was under cultivation. It is not clear when full project implementation will be achieved.

The original target of 65,000 tons of annual production was based on full development of land with yields of 100 tons per hectare. But cane yields have been considerably below target and actually decreased between 1982 and 1986. Insufficient crop irrigation has resulted from inadequate flow in the Jubba River during certain periods and from periodic diesel fuel shortages which prevented full operation of pumping equipment. Normally,

sugar cane requires 23 wettings in a season, but in 1984 the crop was wetted nine times and in 1985 less than 12. The project produces enough to meet most regional consumption needs.

TABLE 3.2: JUBBA SUGAR PROJECT AREA, PRODUCTION AND YIELD

Year	Area Under Cane Ha	Area Harvested Ha	Cane Harvested Tons	Yield Tons/Ha	Sugar Produced Tons
1980	NA	1464	122,924	84	7,926
1981	NA	3013	219,381	72	14,746
1982	NA	3324	297,744	89.6	22,213
1983	5301	4909	335,747	68.4	28,113
1984	6374	4555	289,476	63.4	26,959
1985	6584	6575	426,060	64.8	39,103
1986	6818	4538	278,243	61.4	27,450
1987	7000	2817	198,667	70.5	42,617

Source: AHT, 1987

3. Mogambo Project

The Mogambo Project was intended to produce irrigated rice and maize on a large-scale estate. The first phase of the project included 2,050 hectares of surface irrigation and 160 hectares of sprinkler irrigation which was completed in 1986. Originally, the enterprise was intended to be a strictly large-scale production unit, but smallholders were included in the project in its initial stages. Unfortunately, many of these original settlers were brought from Mogadishu and were inexperienced in farming, and so they had no success in running their small plots. More recently, increasing numbers of local farmers have been included with a better success rate. Presently, some 300 settlers have access to 600 hectares of land within the project.

Technical problems remain to be solved that relate to irrigating fields properly, maintaining equipment necessary for the project's operation, and managing and staffing the enterprise effectively. In addition, crops are routinely destroyed by quelea birds: for example, 60 percent of production was lost in this way in 1986.

4. Constraints on Large-Scale Schemes

The large-scale schemes were intended to avoid the low productivity and the supposed labor bottlenecks of smallholder agriculture by using large-scale, mechanized, irrigated production. Though it was feasible to construct the necessary infrastructure and begin production, the required management and technical skills were lacking to maintain and effectively

operate them. Managers were burdened with targets and plans that were overly ambitious, and so production for all three schemes fell far behind intended levels.

TABLE 3.3: MOGAMBO PROJECT AREA, PRODUCTION, YIELDS

Year/Season	Crop	Cropped Area(HA)	Ave Yield (Tons/HA)	Total Output (Tons)
1985/Gu	Rice	116	3.2	371
	Maize	40	1.6	64
1985/Der	Rice	119	4.6	547
	Sesame	200	.3	60
	Cowpeas	6	.9	5
	Mung-Beans	6	.8	5
1986/Gu	Rice	556(306)(a)	2.8	857
	Maize	50	1.8	90
1986/Der	Rice	504(248)(a)	3.3	818

Notes:
(a) In some years more land was planted than was harvested due to flooding.
Source: AHT, 1987

These schemes were dependent on donor financing in their initial stages but are now expected to be self-financing. In an economy where there is great uncertainty and where it is difficult to operate any enterprise, it can hardly be expected that capital intensive, import dependent production schemes will function effectively. The schemes have been beset by economic problems as well as technical ones, and they have become a drain rather than a boon to the finances of the national government.

G. OTHER AGRICULTURAL INSTITUTIONS

1. Marketing

a. Agricultural Development Corporation (ADC)

Until mid-1982 the ADC had monopoly control of grain marketing and storage, though there was a limited parallel market. But since 1982 when liberalization of the economy began to take place, and especially since 1984 when ADC's monopoly was formally removed, private trade has increased in the Lower Jubba. ADC's role has been reduced to storing grain in times of surplus and serving as the buyer of last resort if market prices fall below floor levels.

b. Somaltex

Somaltex is a public enterprise that has responsibility for cotton marketing. In order to encourage production, it offers free seeds to farmers and sets up buying stations during the harvest season from November to February. Until recently, cotton ginning was carried out in Jamaame, but now it has been taken over by the factory in Mogadishu. Cotton is purchased at a guaranteed price, which in 1986 was 35 Shillings per kilogram. Most cotton production comes from the villages near Jamaame.

2. Inputs

a. Machinery Services, ONAT

The Farm Machinery and Agricultural Service Organization (ONAT), is a public enterprise responsible for providing machinery for hire to assist in land preparation for smallholders and the construction of irrigation canals and roads for banana estates. It has an office and workshops in Jamaame, but in fact it is practically nonoperational. It currently has no machinery for hire and does not have the resources to repair its machinery and manage its own operation.

b. Agricultural Research and Extension, AFMET

The Agricultural Farm Management and Extension Training Program, AFMET, has established offices in Jamaame, Jilib and Yontooy, which are closely connected with the Ministry of Agriculture. But as with other official organizations in Somalia, AFMET suffers from lack of funding and qualified staff.

c. Credit

Officially, credit is available through the Somali Development Bank and the Commercial and Savings Bank of Somalia. But only a few farmers in the region actually receive loans and most farmers have no access to loans from any formal institution. Credit is more often provided through informal channels, mostly through arrangements based on kinship.

CHAPTER IV

THE LIVESTOCK SECTOR

A. INTRODUCTION

This chapter of the report provides an overview of the livestock sector in the Kismayo Region. 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 chapter is based on a study area covering the Lower Jubba 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. More precise locations of the survey areas are discussed in Chapter VIII. The discussion in this chapter provides a context for subsequent analyses of livestock-related activities in Chapters VIII, IX, and X.

B. REGIONAL CONTRIBUTION TO THE NATIONAL ECONOMY

The Kismayo Region contains approximately 25 percent of the national cattle herd and 3.5 percent of the camel herd. Livestock numbers have stabilized in the region during the past 5 years, but prior to this there was a rapid expansion of herds, especially of cattle. Growth in regional herd size has been related to: (1) large growth in human populations due in part to in-migration of herders (and herds) from elsewhere; (2) development of export markets for cattle; and (3) development of additional water points in the region. It is estimated that from 1952 to 1983/84 regional herds of cattle, camels, goats, and sheep grew annually at a rate of 7.9, 5.2, 5.6, and 2.2 percent, respectively. At this rate of annual growth, herds of cattle and camels doubled approximately every nine 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 eight years (Hendy et al. 1985:100).

The contribution of the Lower Jubba'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. The Kismayo Region does not export many sheep and goats, but it is significant in the country's exports of cattle and accounts on average for between 20 and 25 percent of annual camel exports. Table 4.1 shows the contribution of Kismayo to the overseas export of cattle over the period, 1980-1987. In certain years Kismayo accounts for up to 50 percent of the country's cattle exports, although as the table shows, the Saudi Arabian ban on cattle imports from Somalia has had a devastating effect 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, and

the contribution of the Kismayo Region to national foreign exchange earnings dropped considerably. The import ban was imposed by Saudi Arabia in 1983 and is still being maintained.

TABLE 4.1: CATTLE EXPORTS[a] (Live animals)

Year	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 4.1 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, 75 percent of which is accounted for by the Kismayo Region. While the Kenya trade does not earn hard currency for the national economy, it earns Kenya shillings that can used to import Kenyan 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 as it did from overseas exports (see discussion in Chapter X).

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 for this study (March 1987 to February 1988), the government-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 Soviet Union and eastern European markets, canned meat (mostly from the Kismayo Region) was an important component of national exports, accounting for 6.4 percent of the total in the mid-1970s, though currently it contributes less than 0.5 percent.

A third, livestock-based activity in the Kismayo Region that contributes to national income is the export of hides and skins. 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. It is unable to obtain them from local herders, because their procurement agency, the Hides and Skins Agency, offers less than one-fourth the going price of hides and skins in neighboring Kenya. So, when the meat factory is not open, the tannery also ceases to function, or operates at a low level of capacity. Potentially, the tannery has an annual processing capacity of 125,000 cattle hides and 375,000 goat and sheep skins, but currently it is processing only 22,000 cattle hides a year and no goat and sheep skins. The total annual value of production is approximately SoSh 24 million (approximately $120,000). 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 the Somali gross national product - animal exports, the Kismayo Meat Factory, and the Kismayo Tannery - have all experienced rapid decline in the 1980s. The export of live animals, reduced because of the 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 have been the subject 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 is consumed by herders. Later analysis in this report addresses cash transactions arising from cattle sales, but Table 4.2 provides an estimate of total regional production from the livestock sector in 1987, including that part which is not marketed, and an estimate of the value of milk production. The figure of SoSh 3,681.7 million far exceeds the aggregate value of agricultural production in the region (see Chapter VI), although 1987 was not a 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 greater part of the value of dairy production in the region comes from camels, rather than cattle. The analysis in Chapter X disaggregates these data and provides a better indication of the importance of livestock for the regional economy.

D. THE RESOURCE BASE OF LIVESTOCK PRODUCTION

The physical environment of the Kismayo Region provides both opportunities and constraints for livestock production. The resource base of the pastoral sector have been defined in several reports (Hendy et al. 1985; 1987; AHT 1987; Janzen 1988), and only the most salient features need be repeated here. The important indicators can be categorized according to range, water, and disease. Similar to other rangelands of Africa, the Kismayo Region experiences considerable seasonal variation in fodder availability, reflecting fluctuations in rainfall.

TABLE 4.2 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
Total:					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 15 percent of available milk is sold.

The western rangelands of the Lower Jubba 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, such as Lac Dera and Deshek Waamo, which are more likely 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 4.1). 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 Deshek Waamo, the coast, Badhaadhe District, and the Jubba River. If the dry season is not particularly severe, then Afmadow cattle will graze for most of the year around the water points (Bibi and Mido) in the southern portion of Afmadow District, or in the Lac Dera and Lac Jiira basins north of Afmadow town. Because of the severity of the 1987-88 dry season (December-March 1988), there were very few cattle remaining in these areas in early 1988. Instead, the largest concentration of Afmadow cattle at that time was to be found around Deshek Waamo.

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 compete directly for vegetation grazed by cattle. Seasonal grazing areas for camel 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 was 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 transmitter of the deadly trypanosomiasis disease. The tsetse fly belt is concentrated along the Jubba River, the Deshek Waamo, and the southern portion of Badhaadhe District, providing a significant constraint to livestock production in the region. As is discussed in Chapter VIII, herders spend considerable amounts on the purchase of trypanosomiasis-related drugs. Herders are aware of the tsetse belt and devise management strategies to minimize contact with these areas. Cattle herders of Afmadow prefer to use the Deshek Waamo and riverine areas only in the dry season, when the level of infestation is lower. Camel production is of more importance in Kismayo District, partly because of the greater prevalence of tsetse in Afmadow District.

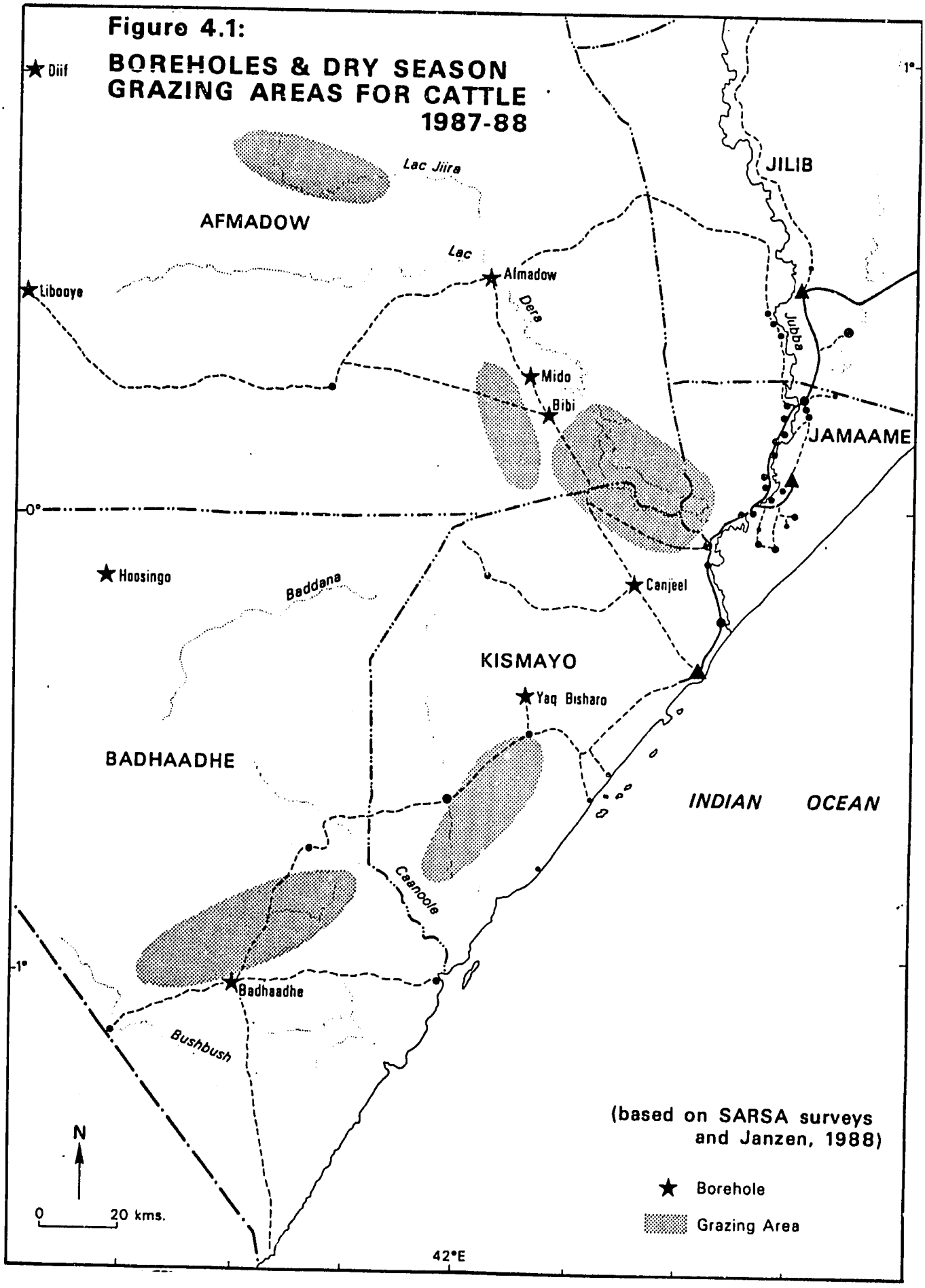


Figure 4.1:
BOREHOLES & DRY SEASON GRAZING AREAS FOR CATTLE 1987-88
Diif
Libooye
Hoosingo
Afmadow
Mido
Bibi
Canjeel
Yaq Bisharo
Badhaadhe
AFMADOW
JILIB
JAMAAME
KISMAYO
BADHAADHE
INDIAN OCEAN
Lac Jiira
Lac Dera
Jubba
Baddana
Ceanoole
Bushbush
1°
0°
1°
42°E
N
0
20 kms.
(based on SARSA surveys and Janzen, 1988)
Borehole
Grazing Area

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 ponds called war, and wells. The former are managed and maintained by the government, while the latter 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 there because of the prevalence of tsetse flies. Currently, there are an estimated 5,000 water ponds in Afmadow District alone, 12 motorized boreholes in the region, and several functioning wells.

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 4.1). The boreholes were developed along stock routes to encourage exports from the Kismayo port. Within the area of the herder household survey (limited to a 100 kilometer radius of Kismayo town), lack of water is not a problem and most seasonal movements are determined more by pasture availability. In fact, there is evidence that an excess of water points, especially in Afmadow District, has led to overgrazing of some nearby range areas. The large number of water points in Afmadow District further exacerbates range conditions by attracting outside herders to the area, especially those with camels.

E. 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 the Jubba River, making rainfed agriculture problematic in the northern parts of the Lower Jubba Region. In the area covered by the herder household surveys, rainfall is adequate to support agriculture in most years (see discussion in Chapter II), and approximately 50 percent of those interviewed combine livestock production with rainfed agriculture. However, the contribution of agricultural production to overall household incomes is minimal, except around the settlements of Bulla Xaaji and Cabdulle Biroole in 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 around Kismayo.

Major differences in livestock production systems are found between Kismayo and Afmadow districts. The major variation is the importance of camels, which is much greater in the Kismayo than in the Afmadow area. Average livestock holdings per household in the Kismayo area are 43 cattle, 22 camels, and 7 goats and sheep, and there are several households that keep only camels and small stock (for more details, see Chapter VIII). The sale of camels and camel's milk provide a significant amount of household income there.

In contrast, camel production is virtually nonexistent among the 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 herders there 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 around Kismayo. Except during severe drought years, such as 1987-1988, their seasonal movements tend to be more restricted, since cattle require a considerably smaller area to forage than camels. Cattle should be watered at least once every two days and are generally restricted to grazing pastures within 15 kilometers of a water point. Camels, though, can be sustained at watering intervals of 11 to 14 days, and thus they can graze up to an 80 kilometer radius.

F. SUPPORT INSTITUTIONS

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

1. The Veterinary Service

The Veterinary Service division of the Department of Animal Health is responsible for animal vaccination programs in the region and is the only officially-sanctioned channel for the distribution of veterinary drugs, although there is a considerable informal trade (see discussion in Chapter VIII). The service is dependent upon the national headquarters to provide funds and supplies, but drugs are often unavailable. The Veterinary Service for the Lower Jubba Region maintains an office and lab in Kismayo, offices in each of the district headquarters, and outstations in Wadajir (Badhaadhe District), Bulla Xaaji (Kismayo District), and Bilis Qooqani (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 maintenance and petrol. The entire Lower Jubba Region is allocated only SoSh 6,000 per quarter to maintain vehicles and purchase petrol, which is insufficient for even 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 veterinary officers themselves often shoulder the costs of vehicle operation, in return for which they 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 ponds in the Kismayo Region. It has constructed approximately five large water ponds in the Lower Jubba Region, covering areas that are not well served by boreholes. The WDA establishes official water rates at the boreholes for animal use, although in practice prices vary. The official tariffs do not generate sufficient revenue to purchase fuel and spare parts, which frequently have to be bought from private sources. The borehole operator often sets his own water rate, based on the costs of operating and maintaining the diesel-powered pumps. In general, among the different institutions, the WDA provides the most reliable service to herders.

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-Jubba Project

This is the remnant of a World Bank-funded marketing project that operated from the mid-1970s to 1981, but it continues to maintain an office in Kismayo and provide limited services to the livestock sector. It operates and manages a fodder farm along the Jubba River near Mogambo that supplies feed for the animal export trade and 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 and dams. After its completion, the project aggressively rented its equipment in order to generate revenue to maintain its office and staff.

The recent proliferation of water points in Afmadow District is a result of the ambitious rental and construction program of the Trans-Jubba 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 in-migration of herders and the deterioration of pastures caused by water development. Although they initially supported the Trans-Jubba 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 at the Ministry of Livestock, Forestry, and Range, who found the construction program of Trans-Jubba 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 found in the agriculture sector. In the 1970s, a parastatal, the Livestock Marketing Agency, did regulate prices, exports, 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 market in the hands of private traders. The export of hides and skins and processed meat is regulated by government bodies, but 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 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 unofficial 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 that subsidize their exports, such as Australia and EEC members.

The government also requires animal exporters to utilize a parastatal shipping agency, Somali National Shipping Agency and Line, 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, for 2 to 3 months, to exporters who have already arranged an export shipment. This means that funds are not available for speculative animal purchasing by traders more than three months before an anticipated shipment. 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. 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 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.

The policy surrounding the marketing of hides and skins discourages herders from selling products in the region. In this case, the government-sanctioned Hides and Skins Agency has a monopoly for the purchase of these items, and they offer official prices that are well below market levels. Herders, therefore, tend either to use the skins for household purposes or sell 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 regulation forces herders into the informal market for veterinary supplies. The topic of veterinary services and inputs is discussed in detail in Chapter VIII.

The state has 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 areas 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 out. 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 Jubba River. Obvious examples are the development of the Jubba 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's presence and its policies 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.

CHAPTER V

THE SETTLEMENT SYSTEM

A. INTRODUCTION

This chapter describes the key features of the urban and rural settlement system. It starts with estimates of the current population of settlements in the region, and recent growth rates for the few cases for which data are available. The next section defines a hierarchy of settlements, and the role they play in serving hinterland populations. This is based on a scalogram providing an inventory of infrastructure, services, and facilities in each place. On this basis, centers are classified according to five categories - regional center, subregional center, market center, local center, and village or noncentral place. The next section looks at the composition of manufacturing in the region and examines the nature of business activities in Kismayo town, to see how their composition has changed in recent years. An analysis of municipal license records reveals which kinds of activities predominate and which activities have grown or declined. A final section looks at those aspects of physical infrastructure in the region that play a key role in the local economy, specifically water, power, roads, and the Kismayo port facility.

B. URBAN AND RURAL SETTLEMENTS

Little data currently exist on the distribution of population in urban and rural settlements. This report is being written before publication of results from the 1986-87 census of population, and the previous census in 1975 provides figures only for the five district centers. Therefore, figures are derived from estimates of the number of households in each settlement, which were prepared by the Ministry of National Planning prior to the latest count (see Table 5.1).

If "urban" is defined as places with more than 2,000 inhabitants, then 62.7 percent, or a little more than three-fifths of the region's settled population resides in urban areas. When unsettled herder households are included in regional population, the urban share falls to 42.4 percent. Given the level of economic development in the region and the relatively narrow range of nonfarm activities, this is an unexpectedly high level of urbanization. This is explained in part by the presence of one of Somalia's largest towns in an otherwise sparsely populated region and in part to the scarcity of water for people and animals, which means rural households tend to cluster together in sizeable settlements around water sources, rather than scattering themselves across the landscape.

Of the settled population, 35 percent lives in the three larger towns of Kismayo, Jilib, and Jamaame, 28 percent in urban centers with 2,000 to 10,000 inhabitants, and a further 16 percent in rural centers with one to two thousand residents. Only one out of five people lives in smaller settlements with less than one thousand residents. The great majority of

TABLE 5.1: POPULATION OF URBAN AND RURAL SETTLEMENTS

Settlement	Population 1975	Estimated # HHs 1986	Estimated Popn 1986	Annual growth 1975-86	Percent Total
Urban centers with population > 10,000					
Kismayo	30115	7800	52182	5.1%	
Jilib	7025	3000	20070	10.0%	
Jamaame	11517	2800	18732	4.5%	
Subtotal:	48657	13600	90984		34.7%
Urban centers with population 2000 - 10000					
Mareerey		1220	8162		
Hombooy		820	5486		
Hargeysa		815	5452		
Afmadow	2883	806	5391	5.9%	
Gaduudey		790	5285		
Bulla Gaddud		600	4014		
Kudhaa (Kulmis)		590	3947		
Beled Kariim		450	3011		
Badhaadhe	1448	405	2708	5.9%	
Bulla Xaaji		400	2676		
Yontooy		400	2676		
Goob Weyn		400	2676		
Libooye		400	2676		
Bilis-Qooqani		400	2676		
Kamsuuma		400	2676		
Demo		400	2676		
Kobon		370	2475		
Turdho Yiireey		360	2408		
Beerxaani		315	2107		
Mogambo		310	2074		
Sanguuni		310	2074		
Subtotal:	4331	10961	73327		28.0%
Rural settlements - population 1000-2000					
Subtotal for 25 centers		5257	42582		16.3%
Rural settlements - population < 1000					
Subtotal for 231 settlements		6795	55040		21.0%
Total:	52988	36613	261932		100.0%

Sources: 1975 - Population census; 1986 Pre-census estimates, Ministry of National Planning.

the region's settled population outside the three large towns is clustered in a small area on either side of the Jubba River, especially in Jamaame District, where densities rise above 100 people per square kilometer. For the most part, the density of the settled population throughout the region is less than one person per square kilometer. However, this rises slightly when the unsettled herder population is taken into account.

C. THE SETTLEMENT HIERARCHY

The population of settlements provides a measure of their relative importance. However, in order to appreciate better the role they play as service centers for surrounding areas, it is more useful to define a hierarchy of settlements by classifying them according to functional categories based on the range of services and facilities to be found in each place. Data for this analysis was collected from field surveys of forty-three settlements which, on the basis of preliminary information and consultations with local officials, are believed to be the more important centers in each district.

The results of this survey are presented in Figure 5.1, in the form of an inventory of selected urban functions, showing whether or not a given function is present in each settlement. Settlements are ranked from top to bottom in order of the number of functions they possess, while functions are ranked in order of the frequency of their occurrence, the more common ones to the left, the less frequent ones to the right. The urban functions included in the table are representative of a range of basic services and activities, including infrastructure, traditional manufacturing, public administration, health and education, commerce and finance, trades and professions, transport and communications.

As may be seen, apart from the largest towns, the size of the settlement as measured by population is not necessarily a good indicator of the number of functions to be found there. Among the eight market centers, for example, Kamsuuma with a population of 2,676 has 28 functions, while Hombooy with double the population has only 22. Similarly, among local centers, both Wadajir and Hargeysa have 14 functions, yet the latter has ten times the population of the former. The range of urban functions to be found in a settlement clearly has more to do with the total population of its hinterland market area, physical accessibility, and its location relative to competing centers elsewhere.

Using standard methods of scalogram analysis, five distinct levels of the hierarchy were discerned, and settlements were classified accordingly. The results are summarized in Table 5.2, and mapped in Figure 5.2. From this, it may be seen that the settled population is distributed fairly evenly among the different levels of the hierarchy. Slightly less than a third lives in the numerous minor settlements or noncentral places at the bottom of the hierarchy, another third among the two middle levels of local and market centers, and the remaining third at the top of the hierarchy in the two subregional centers - Jamaame and Jilib - and the regional center of Kismayo itself.

FIGURE 5.1: INVENTORY OF URBAN FUNCTIONS

Explanatory code for urban functions:

1	Dukaan (small store)	33	Maternity service
2	Koranic school	34	Gasoline station
3	Mosque	35	Wholesaler
4	Cafe/restaurant	36	Bank
5	Truck service	37	Boat making
6	Tailor	38	Secondary school
7	Carpenters	39	Barber
8	Milling	40	Main water supply
9	Elementary school	41	Pottery
10	Butcher	42	Leather work
11	Mechanics	43	Cinema
12	Public hall	44	Hotel
13	Water carrier	45	Hospital
14	Pharmacy	46	Shoe store
15	Cover market	47	Rice dehusking mill
16	Police	48	Agrochemical supply
17	Party office	49	Sawmill
18	Metal work	50	Other manufacturing
19	Farm equipment	51	Hardware store
20	Veterinary service	52	Telephone service
21	Lodging	53	Insurance office
22	Bus service	54	Airstrip
23	Electricity	55	Port
24	Oil press	56	Fertilizer supply
25	Primary health center	57	Brick making
26	Furniture making	58	Vocational school
27	Military	59	Private doctor
28	Health clinic	60	Building materials store
29	District office	61	Stationary store
30	Post office	62	Lawyer
31	Clothing store	63	Governor's office
32	Judiciary	64	Total

FIGURE 5.1: INVENTORY OF URBAN FUNCTIONS

SETTLEMENT	Est. Pop.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
		Urban Functions																
Regional center																		
Kismayo	52182	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Subregional centers																		
Jamaame	18732	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x
Jilib	20070	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Market centers																		
Afmadow	5392	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x
Kamsuuma	2676	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Badhaadhe	2709	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x
Libooye	2676	x	x	x	x	x	x	x		x	x	x		x	x	x	x	x
Buulo Xaaji	2676	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x
Buulo Gaddud	4014	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Hombooy	5486	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x
Goob Weyn	2676	x	x	x	x	x	x	x	x	x	x	x	x	x		x		x
Local centers																		
Mogambo	2074	x	x	x	x	x	x	x	x	x	x	x	x		x	x		
Bilis Qooqani	2676	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
Guduudey	5285	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Kobon	2475	x	x	x	x	x	x			x	x		x	x	x	x	x	x
Cabdulle Biroole	1215	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	
Mana Moofo	1458	x	x	x	x	x	x	x	x	x	x	x	x			x		
Mareerey	8162	x	x	x	x	x	x	x	x	x		x	x	x	x		x	x
Sanguuni	2074	x	x	x	x	x	x	x	x	x	x	x	x					x
Yontooy	2676	x	x	x	x	x	x	x	x	x	x	x	x		x	x		x
Makalango	1701	x	x	x	x	x	x	x	x	x	x	x	x				x	
Beled Amin	1782	x	x	x	x		x	x		x	x	x	x					x
Canjeel	1215	x	x	x	x	x	x	x	x	x	x	x	x	x				x
Hargeysa	5452	x	x	x	x	x	x	x	x	x	x	x			x	x		
Sabatuuni	1620	x	x	x	x	x	x		x	x		x	x	x			x	
Wadajir	648	x	x	x	x	x	x	x	x	x				x	x		x	x
Beerxaani	2107	x	x	x	x	x	x	x	x	x	x	x				x		
Bendar Jadiid	1620	x	x	x	x	x	x	x	x	x	x		x				x	
Buulo Yaaq	1539	x	x	x	x	x	x	x		x	x	x						
Kolbiyo	1458	x	x	x	x	x	x	x	x	x	x	x		x		x		
Sheikh Cambuulo	1458	x	x	x	x	x	x	x	x		x			x	x		x	x
Turdho	2408	x	x	x	x	x	x	x	x		x	x	x	x				x
Yiireey	1620	x	x	x	x	x	x	x	x					x	x	x	x	
Kudhaa	3947	x	x	x	x	x	x	x	x		x	x						
Mashaaqo	1458	x	x		x		x		x	x					x		x	
Demo	2676	x	x	x		x	x	x	x	x			x					
Malaayley	1620	x	x	x	x		x	x	x	x	x	x	x					
Noncentral places																		
Yaq Bisharo	N/A	x	x	x	x	x		x	x									
Burgaan	1296	x	x	x										x				
Fuuma	162		x	x		x		x										
Jiroole	81	x	x	x		x												
Mido	57	x			x	x						x						
Bibi	41	x			x	x												
Totals:	183351	42	40	40	39	38	37	35	34	33	31	29	26	23	22	22	21	19

Urban Functions

18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
x	x	x	x		x	x		x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x
x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x	x		x	x	x		x
x		x	x		x				x		x	x	x	x		x	x	x		x				
x	x		x	x	x	x		x	x	x							x		x				x	
		x	x		x				x	x	x	x		x		x		x						
		x			x				x		x	x									x			
x	x	x	x				x	x																
		x		x	x		x			x														
x	x	x				x	x						x											
				x		x	x	x											x			x		
x	x			x				x							x									
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x	x			x																				
			x																					
x	x																							
					x					x									x					
						x																	x	
x	x																							
18	17	12	11	11	9	9	8	7	7	7	6	6	6	5	5	5	5	5	5	4	4	4	4	3

Urban Functions																					
43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	Total
x	x	x	x		x	x	x	x	x	x	x	x			x	x	x	x	x	x	59
x		x	x	x	x	x	x	x	x				x								48
x	x			x						x				x							43
		x																			30
																					28
											x										27
	x		x																		23
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																					4
																					4
																					3
3	3	3	3	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	752

Moving from the bottom to the top of the hierarchy, the number and range of functions to be found in a settlement steadily increases. The noncentral places, such as Bibi, Jiroole, and Fuuma, have few or no functions, but most often have a general store, koranic school, mosque, or a teashop. The local centers have at least 11 and as many as 19 functions, including typically a maize mill, elementary school, and a mechanic, and less often a post office, police station, or pharmacy. The eight market centers have from 21 to 30 functions, characteristic of which are offices of the political party, metalworkers, veterinary service, lodging house, and a primary health care unit. The two subregional centers, Jamaame and Jilib, contain 48 and 43 functions respectively, including services normally found in district centers, such as the judiciary, banks, and gasoline stations.

TABLE 5.2: CHARACTERISTICS OF THE URBAN HIERARCHY

Settlement level	No. of places	Est. popn.	% settled	Average popn	Function range	Typical functions
Regional center	1	52182	20%		59	Governor's office airport lawyer private doctor bookstore vocational training
Subregional centers	2	38802	15%	19401	43-48	cinema mains water system secondary school bank gasoline station judiciary clothing store
Market centers	8	28305	11%	3661	21-30	primary health care lodging house veterinary service metalworking party office
Local centers	26	62425	24%	2401	11-19	post office police pharmacy mechanic elementary school grain mill tailor
Noncentral places	243	80216	31%	330	0-10	teashop mosque koranic school general store
Total:	280	261931	100%	935		

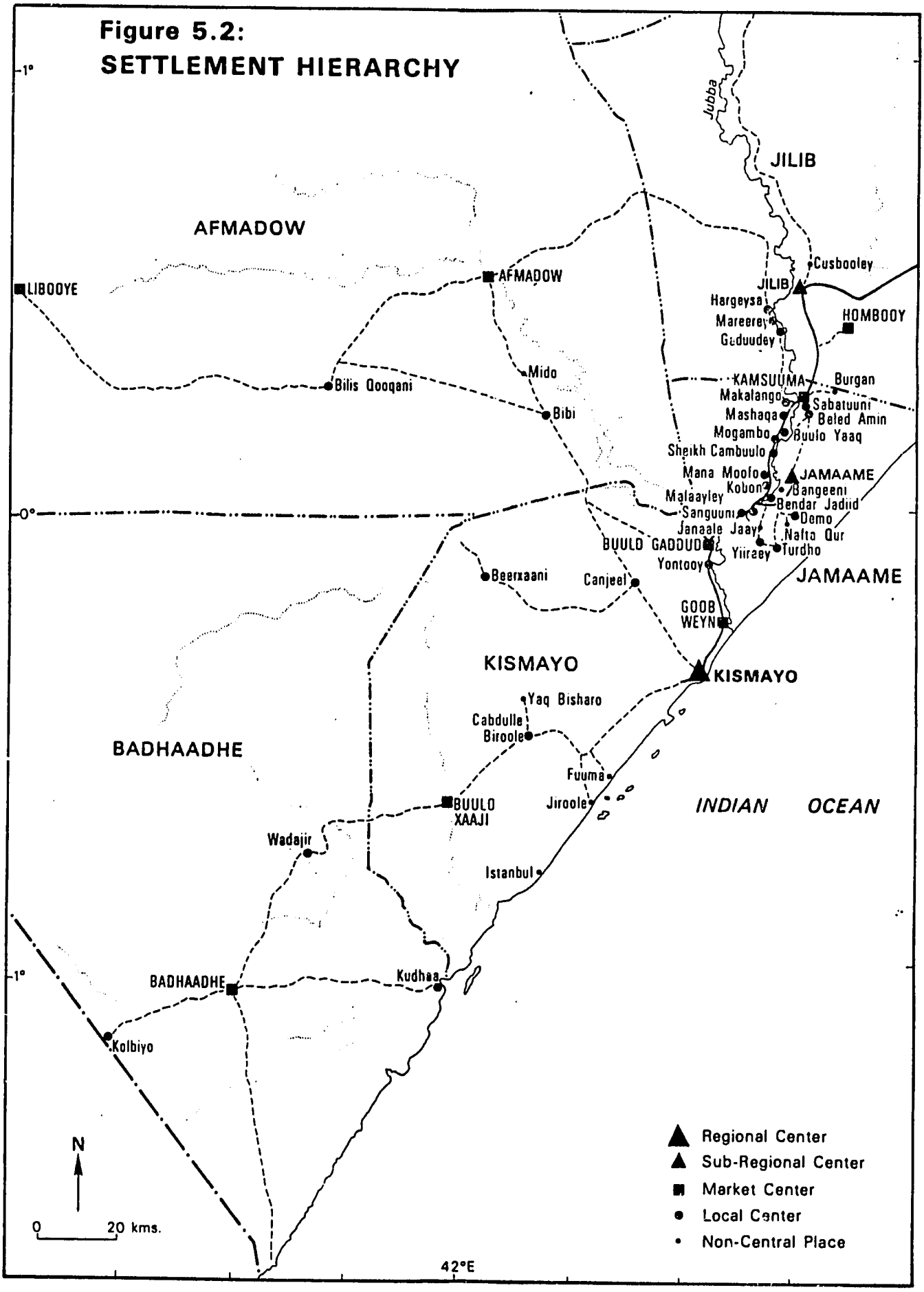


Figure 5.2:
SETTLEMENT HIERARCHY
1°
0°
1°
42°E
Jubba
JILIB
AFMADOW
LIBOOYE
AFMADOW
Cusbooley
JILIB
Hargeysa
Mareerey
Gaduudey
HOMBOOY
Mido
Bilis Qooqani
Bibi
KAMSUUMA
Burgan
Makalango
Sabatuuni
Mashaqa
Beled Amin
Mogambo
Buulo Yaaq
Sheikh Cambuulo
Mana Moofo
JAMAAME
Kobon
Bangeeni
Malaayley
Bendar Jadiid
Sanguuni
Domo
Janaale Jaay
Nalta Qur
BUULO GADDUD
Yiiraey
Turdho
Yontooy
JAMAAME
Beerxaani
Canjeel
GOOB WEYNE
KISMAYO
KISMAYO
Yaq Bisharo
Cabdulle Biroole
BADHAADHE
Fuuma
BUULO XAAJI
Jiroole
INDIAN OCEAN
Wadajir
Istanbul
BADHAADHE
Kudhaa
Kolbiyo
N
0
20 kms.
Regional Center
Sub-Regional Center
Market Center
Local Center
Non-Central Place

In addition they are among the few towns in the region to have a high school, a cinema, and a mains water system. The regional center of Kismayo possesses several functions not found anywhere else in the region, such as a vocational training school, a bookstore, private doctors and lawyers, an airport, and the offices of the provincial governor.

As this analysis reveals, basic services and facilities in the region are few and far between. For example, long distance telephone service is available in only two towns, Kismayo and Jamaame, and gasoline stations are found in only five. Health care for the region's population of close to 400,000 people is nominally provided by three hospitals, seven health clinics, and eight primary health care units, although few of these facilities are operational due to a severe lack of staff, medicines and equipment. Education facilities are also limited; high schools are found in only four towns, and anyone in search of vocational training courses will find them only in Kismayo.

Market centers (see Figure 5.2) are evenly distributed across the region relative to the density of population. Buulo Xaaji lies equidistant between Kismayo and Badhaadhe, while Buulo Gaddud and Kamsuuma lie halfway between the larger towns of Kismayo, Jamaame, and Jilib, even though most of the population is concentrated around Jamaame in the middle. The two market centers that do not conform so neatly to this pattern are Hombooy and Goob Weyn. Both of them appear to have just graduated from being local centers, and both are adjacent to the two most vigorous towns in the region. This suggests that local farmers around about the big towns are benefitting from demand there and, in turn, are spurring the growth of nonfarm activities in the smaller centers close by.

D. MANUFACTURING AND OTHER NONFARM BUSINESS ACTIVITY

The foregoing analysis of the services and facilities to be found in the settlements provides a first idea of the range of urban functions or nonfarm activities in the region. In a predominantly agricultural economy, the changes in nonfarm activity reflect the impact of rural production on urban activities and provide pointers to what can be expected in the future, as the region's economy gradually evolves from agriculture and diversifies into manufacturing, commerce, and services.

With the exception of the Jubba sugar factory at Mareerey, which is one of the largest manufacturing establishments in the country, there are few other modern industrial plants in the region of any significance (see Table 5.3). In terms of employment, they include: the INCAS factory near Jamaame, which produces cartons for banana exports; the meat factory in Kismayo, which operates intermittently and was evidently closed for the whole of 1985; and the fish refrigeration plant run by Somali Marine Products in Kismayo, which was just getting off the ground at that time. The INCAS plant was the only other one generating substantial earnings and benefitting from major new capital investment.

TABLE 5.3: MANUFACTURING ESTABLISHMENTS IN THE KISMAYO REGION 1985

ISIC code	Category	No of estabs	Employ-ment	Earnings	Cost of Acquistns	Value added	Capacity utilizn
3111	Meat factory	1	185	nd	0	0	.0%
3114	SMP fish factory	1	120	nd	nd	nd	2.0%
311	Other food mfg	4	102	889	3851	6266	nd
3118	Sugar factory	1	3632	74800	73800	542085	55.9%
3231	Tannery	1	77	1491	0	3159	nd
3240	Footwear	1	24	230	nd	769	nd
3412	INCAS packing	1	193	16570	71075	23989	24.0%
4200	Water works	1	46	617	0	4414	nd
Total:		11	4379	94597	148726	580682	

nd = no data
Source: Ministry of Planning, General Directorate of Statistics, Industrial Production Survey 1985.

Apart from these larger establishments, the urban areas include numerous smaller enterprises involved in petty manufacturing, transportation, services, and particularly commerce. Little published material is available to describe these activities, but some information is to be found in the district registers of business licenses. Table 5.4 summarizes data on the number of licenses issued for Kismayo town. With a few exceptions, notably in food related industries and utilities, the vast majority of these businesses are small, family-run operations. Although the register provides no information on the number of people associated with each business, the number of licenses is a good indicator of the composition and change of activity.

In 1979, a total of 1,636 licenses were issued, about two-thirds of them for commerce and services. Manufacturing and transport made up another third, with a negligible number for other businesses. Most of the commercial activity comprised small general stores and street vendors, while the bulk of the service sector was made up of teashops, livestock agents, and ticket touts for buses and taxis.

Eight years later, in 1987, the number of licenses issued had increased by nearly 50 percent to over 2,400. This increase is due in part to greater efficiency by the local authority in the enforcement of licensing, but it also reflects the overall growth of business activity in the town during the intervening years. Over half the increase comes from commerce, particularly through the proliferation of small general stores and to a lesser extent the opening of new import-export firms following the government's decision to lift restrictions on private sector foreign trading. Another major

component of the increase comes from the transportation sector, due primarily to the growth in the number of trucks and taxis but also donkey carts. Taxis and donkey carts cater mainly for local transport within the town, but the growth of trucking suggests an intensification of trade between Kismayo and other parts of the region and beyond. The service sector has expanded more slowly, while the number of manufacturing businesses has declined from 248 to 157. The decline is particularly noticeable among tailors, but also among makers of wood and metal products.

Thus, urban business activity in general is increasing, although the main opportunities appear to be in commerce, transportation and services, rather than manufacturing. Increasing trade is putting local small-scale

TABLE 5.4: BUSINESS LICENSES ISSUED IN KISMAYO DISTRICT BY SECTOR OF ACTIVITY 1979 AND 1987

Sector	1979 Number	1979 %	1987 Number	1987 %	Change
Agriculture	3	0%	1	0%	-2
Mining	0	0%	1	0%	1
Manufacturing	248	15%	167	7%	-81
Food	57		57		0
Clothing	110		36		-74
Wood	26		17		-9
Metal products	27		17		-10
Other	28		40		12
Utilities	2	0%	2	0%	0
Construction	8	0%	17	1%	9
Wholesale & retail	623	38%	1032	43%	409
Import/export	0		48		48
General retail	331		556		225
Clothing	21		51		30
Pharmacy	14		49		35
Other	257		328		71
Transport & Communications	265	16%	602	25%	337
Taxi & trucks	130		327		197
Vehicle repair	13		45		32
Other	122		230		108
Finance, insurance & real estate	2	0%	3	0%	1
Services	485	30%	583	24%	98
Hotels, restaurants & tea shop	278		352		74
Agents (travel and livestock)	153		186		33
Personal services	24		17		-7
Other	30		28		-2
Total:	1636	100%	2408	100%	772

Source: Compiled from the register of business licenses, Kismayo District Council.

TABLE 5.5: ROAD NETWORK IN KISMAYO REGION

Link number	Start node	End node	All year (A) /seasonal(S)	Distance (kms)	Travel time (mins)*
105	305	306	A	14	14
107	306	308	A	15	20
108	305	311	A	50	50
118	311	316	A	21	21
119	316	317	A	14	14
Subtotal:				114	
101	301	302	S	97	180
102	302	303	S	54	114
103	303	304	S	116	215
104	304	305	S	44	65
106	306	307	S	11	35
109	305	309	S	19	34
110	309	310	S	18	32
111	312	311	S	32	60
112	313	312	S	24	40
113	303	313	S	45	70
114	302	313	S	58	105
115	312	314	S	19	30
116	314	315	S	20	40
117	314	317	S	34	60
120	317	318	S	52	75
121	318	319	S	15	15
122	319	320	S	30	40
123	320	321	S	43	75
124	321	322	S	44	85
125	322	323	S	61	150
126	323	324	S	39	75
Subtotal:				875	
Total:				989	

* Approximate travel time in dry weather for 4WD vehicles.

manufacturers out of business in face of competition from larger firms outside the region producing better and cheaper goods. Not many larger firms are yet to be found in Kismayo, due in part to the limited size of the regional market, its unfavorable location vis-a-vis the rest of the country, and the lack of supporting infrastructure and services.

E. PHYSICAL INFRASTRUCTURE

1. Roads

The road network in the Kismayo Region has so far been only partially developed. An all weather road connects Kismayo to Mogadishu via Jilib, and spurs extend to Jamaame and the airport at Kismayo. A stretch of this highway near Kamsuuma was washed away in the floods of 1987, and has since been repaired temporarily. A number of gravel roads have been built over the years to serve the banana estates on the east bank of the Jubba River and for the purpose of mineral exploration in Kismayo District and southern Afmadow. Otherwise, most of the road network in the region takes the form of bush tracks, many of which become impassable in the rainy season, with the result that whole areas are cut off for months at a time, especially in Afmadow and Badhaadhe districts. The average travel speed on surfaced roads is about 60 kilometers per hour, and half that on seasonal unsurfaced roads (see Table 5.5 and Figure 5.3).

The road network is currently being reclassified, the criteria being based on the importance of the link rather than its current condition. Primary roads include the 114 kilometer Jilib-Kismayo link and the 277 kilometer stretch from Kismayo through Afmadow to Libooye on the Kenya border. Secondary roads include the spur to Jamaame, but not the Kismayo-Badhaadhe link, which is classified as a tertiary road, as are all others in the region.

Responsibility for the planning, design, construction, and maintenance of primary and secondary roads throughout Somalia lies with the Department of Highways (DoH), which has recently been reorganized and forms part of the Ministry of Public Works. In practice, the department's capacity to maintain roads is constrained by a chronic lack of funds and foreign exchange, which means that virtually all its vehicles and equipment, including those in the Kismayo Region, are nonoperational for want of spares or fuel. Recent repairs to the Jilib-Kismayo road after the 1987 floods were made not by the DoH but others including the Kismayo port contractor, Somalfruit, and banana estates, whose equipment was operational.

This situation may be alleviated somewhat by a major project financed by the World Bank for the repair, rehabilitation, and maintenance of the existing primary and secondary road network. In addition, a $1.8 million grant from Japan due in March 1988, would permit the DoH to purchase new equipment and spare parts, some of which are destined for the Kismayo Region. Only one new construction project is currently underway in the region, for a bridge across the Jubba River close to Jilib, financed by the European Economic Community. Proposals under consideration, but not yet funded, include the construction or upgrading of the road north from Jilib to Baardheere, and from Kismayo to Libooye on the Kenyan border. The latter is being promoted by member governments of the Preferential Trading Area, which is seeking finance from the African Development Bank.

Tertiary road links are generally neglected. Although district councils are empowered to build and maintain such roads, they very rarely have

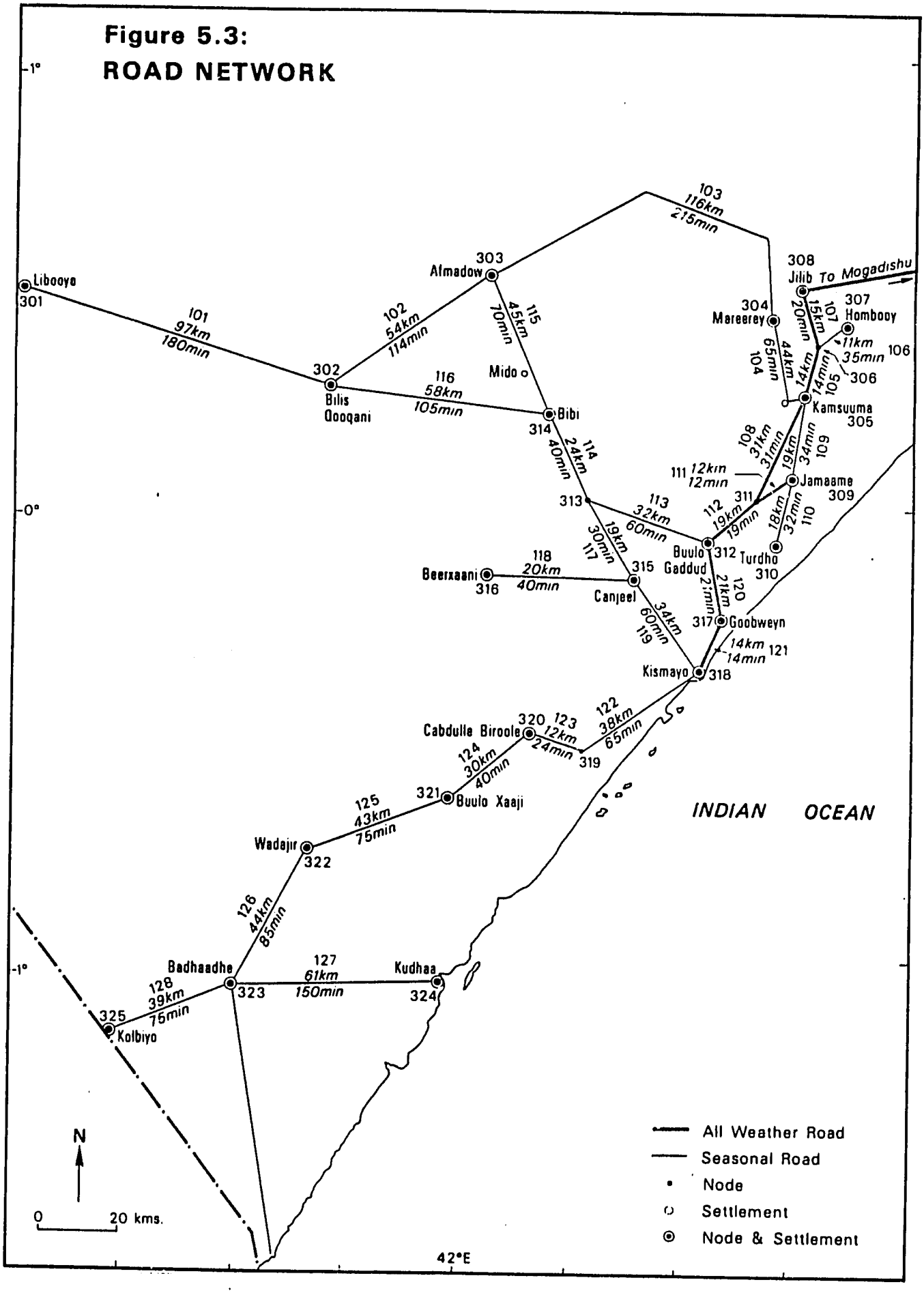


Figure 5.3:
ROAD NETWORK
-1°
0°
-1°
42°E
Libooya
301
101
97km
180min
302
Bilis
Qooqani
102
54km
114min
303
Almadow
103
116km
215min
308
Jilib To Mogadishu
304
Mareerey
307
Hombooy
106
306
Kamsuuma
305
115
45km
70min
Mido
116
58km
105min
Bibi
314
114
24km
40min
313
113
32km
60min
312
Buulo
Gaddud
Turdho
310
Jamaame
309
111 12km
12min
311
108
31km
31min
109
110
112
19km
19min
18km
32min
117
19km
30min
118
20km
40min
Beerxaani
316
315
Canjeel
120
21km
21min
317
Goobweyn
34km
60min
119
14km
14min
121
Kismayo
318
122
38km
65min
319
320
Cabdulle Biroole
123
12km
24min
124
30km
40min
321
Buulo Xaaji
125
43km
75min
Wadajir
322
126
44km
85min
Badhaadhe
323
127
61km
150min
Kudhaa
324
128
39km
75min
325
Kolbiyo
INDIAN OCEAN
N
0
20 kms.
All Weather Road
Seasonal Road
Node
Settlement
Node & Settlement

done so, for lack of the necessary financial resources. Some community self-help schemes for road-building and maintenance have been attempted in a few areas, but according to the DoH these projects tend to be poorly designed, with excessive gradients, and inadequate drainage culverts.

2. Water

The lack of water generally, and the lack of potable water for humans in particular, is a serious constraint to development in the region. Time and again, in discussions with study team members, village representatives mentioned health problems related to poor water as a key concern, and listed potable water projects high among their development priorities. Table 5.6 lists the sources of drinking water in the wet and dry seasons for the settlements included in the field survey.

TABLE 5.6: SOURCES OF DRINKING WATER IN THE REGION

	Wet season					Dry season				
District	Mains	Well	River	War	Other	Mains	Well	River	War	Other
Kismayo	2	6	1	4		2	7		1	3
Jamaame	1	8	7	1		1	8	8		
Jilib	1	4				1	4			
Afmadow		4		1			4		1	
Badhaadhe		1		3			1		3	
Total:	4	23	8	9	0	4	24	8	5	3
Percent:	9	52	18	20	0	9	55	18	11	7

Only four settlements have a mains water supply system. The principal source for over half of all villages is a well, while more than a third depend on rivers, wars, or other sources. In the dry season, one or two villages are able to count on the boreholes operated by the WDA, but three others in Kismayo District have to depend on private suppliers to bring in water by tanker trucks, which is extremely expensive.

Over the years, efforts have been made to provide rural settlements with wells, although the water quality varies considerably, in some cases being saline, in others simply dirty from lack of adequate protection. About two-fifths of the wells have been dug by the communities themselves, while others have been constructed by the WDA and private voluntary organizations. The community is responsible for maintenance, assisted sometimes by those who may have built the well in the first place. Most wells are operated with hand pumps, although one-quarter of the settlements rely on diesel pumps. At the time of the survey, one quarter of these pumps were out of operation, and in the last year, most had been out of operation for a period ranging from one to 16 weeks.

Mains water supply systems are found in only four settlements: Jamaame, Jilib, Kismayo, and Goob Weyn, which is the point of intake on the Jubba River for Kismayo. The Jamaame and Jilib systems were constructed in 1979, and the Kismayo-Goob Weyn system in the late 1960s, at the same time as the port facility was being built. The latter system has been steadily deteriorating for several years through lack of maintenance, although some rehabilitation of the system is scheduled under the current port rehabilitation project. In all cases, the mains system connects to neighborhood standpipes and directly to a few dwellings and business premises, but only in Kismayo and Goob Weyn are individual consumers metered.

Water charges vary from place to place even though prices were set in 1980 by the central government. Charges for water at the well or standpipe ranged from 5 to 20 shillings per 200 litre barrel. In practice, however, charges are often not collected, especially in times of hardship, since water is generally perceived as a free good. At other times, if the operator runs out of fuel to run the pump, people have been known to supply their own, and in such cases charges are waived. In a little over half the settlements, water is also distributed to households by water carriers, who charge 20 to 100 shillings per barrel at the destination.

Apart from the Kismayo-Goob Weyn system, which is run by an autonomous agency under the Ministry for Water and Mineral Resources, responsibility for construction, operation and maintenance of water supplies for both human and animal consumption in most of the settlements lies with the Water Development Authority (WDA). Its regional office in Kismayo serves four of the five districts in the study area, the exception being Jilib, and comprises a director, maintenance crew, administrative staff, and drilling teams. In addition to the construction and maintenance of domestic water supplies, the WDA also operates 19 boreholes (wells) in the dry season, each attended by one or two operators (see Figure 4.1). In recent years, the WDA's budget, which is subject to approval by the Ministry of Finance, has been inadequate to fund the tasks it is expected to carry out. The allowance for fuel costs, for example, covers about three days per month, while only 10,000 shillings per quarter is budgeted for maintenance and repairs of the region's facilities and equipment. Many wells and boreholes lack supporting infrastructure like shelters, troughs, and storage tanks.

At the national level, capital funds for new projects come mainly from donors such as the EEC, Britain, and China. No new projects are proposed at present, although some help is expected from the Italians and from UNICEF. Many PVOs are also involved in digging wells for village consumption. The WDA claims there is a lack of coordination among those involved in providing water, which can give rise to problems, such as duplication of facilities. District authorities are also empowered to provide water, but have not done so, due to lack of technical expertise and foreign exchange for the purchase of machinery and spare parts.

3. Power

With the exception of the recently rehabilitated facility at Kismayo, the region suffers from a widespread lack of reliable power supply. Outside

Kismayo, only nine settlements have power, generated in most cases by aging diesel plants, which serve only a small part of the local population, and operate only part of the day. At the time of the field study, many of these pumps were reported to be out of action for want of spare parts.

The Kismayo plant was originally constructed in 1967 as a part of the port construction but gradually deteriorated for want of technical expertise and foreign exchange to purchase replacement parts. In 1985, FINIDA agreed to rehabilitate the facility (and another one at Baydhabo), financed by a grant of US$7.2 million. The new station opened in June 1987, operating 10 hours a day, and in November service was increased to 24 hours a day. The plant capacity is 2100 kilowatt (or 2500kVa) and is currently operating at about one-fifth this level most of the time, and at one-third capacity at peak hours.

In addition to domestic consumers, major users include the SMP for its fish refrigeration plant, which consumes about one-third of current output, the district council for street lighting, the ADC for its mill, the post office, and the tannery when it is open. The meat factory and the airport are to be connected in the next phase of grid extension, the costs of which are to be covered by FINIDA. All consumers are connected with meters, and charges are a flat SoSh 15 per kilowatt hour. This tariff is designed to cover operating costs and to generate capital reserves for replacing machinery and expanding the system in the future, although FINIDA will provide spare parts for the next five years.

The Kismayo facility is run by the Ente Nazionale Energia Electrica (ENEE), a joint-venture parastatal between the government and an Italian company under the Ministry of Public Works, which also operates plants in nine other towns in Somalia. As part of the rehabilitation project, ENEE Kismayo will receive technical assistance until at least May 1989, and possibly for a further five years. Tariff rates are set by ENEE, subject to government approval, and are standard throughout the country. In Kismayo, revenues since the new service opened have been a little ahead of projections, due in part to efficient metering and collection. Current priorities are to train local operating and maintenance staff to replace expatriates and to raise salaries to keep them.

The demand for power connections is increasing. Following the opening of the new system, there has been a profusion of cottage industries, such as workshops, welders, ice cream makers, and ice making plants. Currently, there are a total of 2,600 connections, and the next phase will add a further 2,000, mostly to houses, small commercial premises, and some factories.

In addition to running the Kismayo facility, ENEE occasionally provides technical support and maintenance services to district authorities operating their own generating facilities, for example in the towns of Jamaame, Jilib, Afmadow, and Badhaadhe, since most local councils lack technicians trained in maintenance procedures. In theory, district councils may also contract ENEE for the construction of new projects or expansion of existing systems. In practice, however, since the councils lack the necessary funds, they have been unable to initiate any new projects.

Apart from the facility at Kismayo, there is also a small hydroelectric generating plant at Fanoole, built and operated by the Chinese as part of the irrigation scheme there. The plant operates as long as there is a sufficient difference in water levels between upstream and downstream; it cannot operate when the river runs low, or when there are heavy floods. Usually, this means it runs about eight to nine months a year from April through December. The plant potentially has a 4,500 kilowatt capacity, but normally operates at about 15 percent of this level, which is not enough to justify the large initial capital costs. The Soviets built a 35kVa transmission line serving Jilib and Kamsuuma, and Jilib has a 1,200 kilowatt generator for periods when Fanoole is not running. FINIDA is apparently receptive to a proposal from ENEE to extend the line to Jamaame, but no feasibility studies have yet been undertaken. The cost of extending the line would not be great, but there still remains the problem of the three to four month gap when Fanoole is not operating. The diesel-powered generators in Jamaame date from 1960 and would probably have to be replaced under any new project.

4. The Kismayo Port

a. Trade

Kismayo port is the third largest in the country after Mogadishu and Berbera. According to a recent report entitled Analysis of Rural and Intercity Transportation 1985/86 prepared by the Ministry of National Planning, Kismayo handled between 7 percent and 12 percent of the annual tonnage that passed through these three ports in the period 1981-1985. Port activity has fluctuated widely in recent years, due partly to changing trade agreements, world market conditions, and local activities in the region. Data on quantities of exports and imports is available from the Somali Ports Authority and on quantities and values from the Ministry of Trade, though the two series are not consistent with each other. The most recent figures from the Ministry on the value of trade are shown below in Table 5.7, deflated to constant 1978 Somali shillings using the consumer price index.

According to this information, in each year between 1979 through 1983 the value of exports exceeded the value of imports by an increasingly wide margin. The major export items are of course livestock and bananas, although the volume of trade has fluctuated widely from year to year. Banana exports apparently collapsed in 1982, but rebounded to new highs the following year. The effect of the Saudi embargo on livestock purchases can be seen in the figures for 1982 and 1983, when exports dropped to less than a fifth of the previous year, in line with the data in Table 4.1. The only other exports of significance are hides and skins, though these were negligible after 1979.

The major imports were manufactured goods, chemicals, machinery, and transport equipment, mostly destined for development projects at Fanoole, Mareerey, and Mogambo. The decline in imports between 1979 and 1981 largely reflects the hiatus that followed the withdrawal of Soviet assistance and its impact on development activities.

TABLE 5.7: VALUE OF IMPORTS AND EXPORTS THROUGH KISMAYO PORT, 1979-83
(Constant SoSh 1978)

Imports Code	Description	1979 Value	1980 Value	1981 Value	1982 Value	1983 Value
0	Food	2322	5945	2187	417	117
1	Beverage & tobacco	133	130	75	56	2
2	Crude materials	1181	509	194	324	3
3	Fuels	6071	365	32	1368	0
4	Animal & veg oils	0	8	1	43	0
5	Chemicals	16083	947	1263	1406	0
6	Manufactured goods	28811	10524	6966	4929	12819
7	Machy & Transp eqpmt	40521	22100	6407	11831	4473
8	Misc manufactures	1272	4124	178	94	39
9	Not specified	116	27	24	278	16
	Total:	96511	44680	17328	20747	17469
	Change over Previous Year		-53.7%	-61.2%	19.7%	-15.8%

Exports Code	Description	1979	1980	1981	1982	1983
0	Food	46919	57283	36375	36875	87598
	Live animals	23457	30478	23507	35248	6262
	Fruit & veg	19003	21629	12465	593	79941
1	Beverage & tobacco	0	0	0	0	0
2	Crude materials	4507	58	105	1	0
	Hides & skins	4505	48	47	0	0
3	Fuels	0	0	0	15	33
4	Animal & veg oils	1	1	0	0	0
5	Chemicals	0	0	0	0	0
6	Manufactured goods	24	7	7	2	0
7	Machy & Transp eqpmt	39	101	78	0	0
8	Misc manufactures	23	11	40	1	0
9	Not specified	51	55	11	7	19
	Total:	98527	109670	72635	72742	173853
	Change on Previous Year		11.3%	-33.8%	.1%	139.0%
	Trade Balance:	2016	64991	55308	51994	156385

Source: Ministry of Trade.

b. Revenues and Expenditures.

Kismayo port is operated by the Somali Ports Authority (SPA), an autonomous parastatal under the control of the Ministry of Finance. Operating revenue and expenditure figures for 1986 and 1987 were shown in Table 5.8.

Port revenues are derived mostly from: a) ship charges including piloting, mooring, and berth occupancy; b) stevedoring; c) shore cargo handling; and d) charges for hire of equipment and storage. In addition, a harbor tax of three percent of the value of goods is collected by the Department of Customs and Excise and handed over to the SPA. Recurrent expenditures comprise five main items: a) salaries and wages; b) staff costs; c) port operation costs; d) administration costs including property and transport insurance; and e) finance costs, mainly for depreciation and interest charges on bank loans.

The SoSh 26.7m ($133,500) profit in 1986 from Kismayo represented about five percent of the SPA's total operating surplus for that year. Of these surpluses, the central government receives 50 percent as a turnover tax and a further 30 percent as their share of profits. From what is left, the SPA allocates one-quarter to a staff housing fund and employee benefits, and the remainder, 15 percent of the original operating surplus, towards capital reinvestment.

TABLE 5.8: PORT REVENUES AND EXPENDITURES (SoSh million)

	1986	1987
Revenues	48.2	93.9
Operating Expenditures	21.5	39.4
Operating Surplus	26.7	54.5

Source: SPA

According to SPA officials, however, the large operating surpluses are an illusion. The Ministry of Finance approves SPA expenditures only for minimal operating costs with no allowance for major maintenance, for example, to machinery, vessels, harbor walls, and other physical structures. The remaining 15 percent of surplus is considered totally inadequate to cover the cost of major new capital items like tugboats and hoisting equipment, or even to cover regular maintenance of buildings and machinery, let alone overtime payments or emergency assistance to SPA personnel in times of sickness. The SPA also indicated that they need more training for middle management personnel, in addition to that which is included under an ongoing World Bank project.

c. Facilities and Capacity Utilization.

The port has recently been undergoing a major rehabilitation and expansion, financed with a grant from USAID. The completed facilities will include four berths, two of which were completed in August 1987, and roll-on facilities for vehicles and livestock. The port is also due to receive World Bank funds from the national ports rehabilitation project, which will include a new container terminal, workshops for maintenance of cranes and equipment, as well as additional equipment such as tractors and forklifts. These improvements are expected to be completed by 1991. Currently, the port employs 95 permanent staff and hires stevedores as needed.

The Kismayo Port Authority estimates that, on average, the port is operating at about 30 percent of capacity. In 1987, exports of livestock were down sharply to only 10,000 animals versus 70,000 a few years earlier. After the 1987 floods, when the Kismayo-Jilib road link was broken, many banana exporters, particularly in the Shabelle Region, turned instead to Mogadishu port. Most importers also prefer to unload at Mogadishu rather than Kismayo, since the largest market is there. Kismayo's relatively poor location with respect to national markets, coupled with its weak road links to the north, limit trade through the port. Looking ahead, the SPA anticipates increased exports of fish, livestock, and Somalfruit commodities (bananas, watermelons, and grapefruit) bound mainly for the Middle East and Italy. The volume of imports might also increase once road links are improved to Mogadishu and to Baardheere in the north, making Kismayo a more attractive location as a wholesale distribution center, especially for goods from Kenya.

Commercial traders in Kismayo often prefer to use the Mogadishu port, since it is apparently easier to obtain all the necessary customs and excise documents there. Government officials claim that ministry representatives in Kismayo have complete authority to process documents there, without the need to refer to Mogadishu. Local traders, however, report longer delays, and the port authority indicated that they have insufficient facilities to store goods while the paperwork is being processed.

PART TWO

RURAL-URBAN EXCHANGE

ANALYTICAL APPROACH

The second part of this report applies the SARSA analytical methodology, discussed briefly in Chapter I, associated with SARSA's Rural-Urban Exchange research framework.

Underlying this analysis is a model of rural-urban development based on mutually reinforcing rural-urban exchanges that raise agricultural production and incomes in rural areas while increasing nonfarm business activity in urban areas. According to this model, towns provide supporting services for the production and marketing of agricultural commodities, and hence help to raise productivity and incomes among rural households. Rising rural income spurs demand for both agricultural inputs as well as consumer goods and services, many of which can be produced or supplied by the towns in the region themselves. Increased demand leads to the expansion of small-scale business activities in towns, and the creation of nonfarm jobs for surplus rural labor. Growth of urban activities and population in turn stimulates demand for rural produce, and once again helps raise rural incomes.

The extent to which the local economy grows is seen to depend largely on three factors: outside demand for the region's exports; internal demand for and supply of local goods and services; and the nature of the linkages associated with the production and marketing of goods and services in the region for export or local consumption.

External demand for raw materials, farm produce, or other goods and services provides the initial impetus to spur growth in a region. A developing region that exports little or nothing to the outside world is likely to experience weak growth, unless it is receiving substantial remittances from its labor force working elsewhere or transfers from the central government. The Kismayo Region produces at least two major exports - cattle and bananas. Although demand has fluctuated widely in recent years, these commodities continue to generate substantial income, providing the basis for the region's growth.

Earnings from exports enable a region to purchase local goods and other goods and services that it cannot efficiently provide itself, to accumulate savings, and to diversify production. If, however, the region lacks the capacity to provide itself with basic essentials, particularly food, then much of the benefit derived from its export earnings is lost. The Lower Jubba is one of the few areas in the country considered to have the potential to grow sufficient maize to feed much of the local population, which implies the potential to generate further income from export earnings and savings for investment.

The third factor affecting the growth of a region's economy is the extent to which earnings from production and marketing of goods for local consumption or the outside world can be multiplied to produce additional income for other local businesses and households. If a large part of earnings leaves the region through purchases of intermediate inputs required for production, as transfers to central government or to head offices of

firms located elsewhere, then little benefit accrues to the region, and the stimulus to growth is correspondingly weak. If, on the other hand, production makes use of local labor, capital, and other inputs, then the impact of both external and internal initial demand is correspondingly greater. Initial earnings can spur the expansion of local businesses, create more employment opportunities, and generate additional income.

With this framework in mind, the six chapters that follow attempt to construct a picture of the Kismayo regional economy. This picture is intended to reveal constraints holding back the growth of economic activities and to identify potential opportunities for private sector investment as well as government actions, which are discussed in the final Chapter XII.

Chapters VI through IX examine the transactions associated with the production and marketing of four commodities: maize, bananas, cattle, and milk. In each case, the analysis focuses on both backward linkages in terms of the use, supply and availability of inputs, and the forward linkages connected with bulking, transportation, and marketing of produce. Chapter X traces the distribution of earnings from each of these commodities among the towns and rural areas of the region and estimates the proportion of revenue that is retained in the region and that leaks out to the rest of the world. Chapter XII carries out a similar analysis, this time looking at the distribution of consumer spending by urban, farm, and herder households, and concludes with a brief discussion of investment patterns among these households.

CHAPTER VI

MAIZE COMMODITY SYSTEM

A. INTRODUCTION

This chapter examines the maize production and marketing system in the Kismayo Region, calling on information collected in surveys done in villages in two districts and with traders throughout the region. The production and marketing system is described and analyzed with respect to producer incomes, the production costs, trader activities, and regional production and demand.

The data presented in this chapter refer to the production season for 1986, and were collected between May and September 1987. Data on marketing were collected during December 1987 and January 1988. The sample included 15 villages and 40 traders who deal in maize, sesame, or imported products in the Lower Jubba Valley. The sample consisted principally of farms in the Jamaame District on either side of the river and four villages in the Kismayo District. The villages in the Jamaame District received the most attention in the survey because they have the largest area cultivated per village and contribute the most to the region's annual production.

B. CATEGORIES OF VILLAGE TYPES

1. East

The villages referred to as "East" lie east of the river and to the south and east of Jamaame town. They are typically large villages, the inhabitants of which are descendants of herders who settled several generations ago, after losing their herds during droughts. Turdho, Bendar Jadiid, and Demo are in this category, while some of the villages more recently established were settled by people who relocated from existing villages in the area. These east villages are generally the most prosperous of the region with good agricultural land that is often inundated by annual flooding of the Jubba River. They produce much of the region's maize and sesame, and nearly all of the region's cotton. Farmers in east villages have more diversified operations and, according to the sample, have higher incomes and significantly higher yields than those in the other categories of villages.

2. West

Villages in the west consist of two types: those along the river bank, and those inland.

a. River Bank

This rubric refers to villages also in the Jamaame District on the west bank of the river. They are inhabited by descendants of immigrants from Kenya and Tanzania who settled during the last two-hundred years, of small

numbers of Arabs of varied Middle Eastern origins, or of freed slaves who gained their freedom within this century. Some of these villages have long histories of settlement, and one of them, Mana Moofo, was an important religious center and still holds local prominence. Crop production is mostly rainfed, and productivity is normally low, providing very meager farm incomes. Many inhabitants supplement their farm incomes by hiring themselves out to the nearby banana estates or the large agricultural production schemes, which are found on this side of the river. These villages seem to be much less prosperous than those categorized as "East."

b. Inland

This category refers to villages in the Kismayo District to the west of the river. Many of them are only 15 to 20 years old, and were originally settled by herders who lost their herds. Cabdulle Biroole and Canjeel fall into this category. Other villages, such as Buulo Gaddud, have been settled for a generation or two by different mixtures of people. In these villages farmers depend most heavily on the desheq rather than just on rainfed agriculture. Some farmers own cattle, though their small herds are kept for milk production, not as part of large range herds. Herders settle temporarily in some of these villages during certain seasons.

TABLE 6.1: VILLAGES SAMPLED

East				West			
Village	Total HH	HH Sampled	% Total	Village	Total HH	HH Sampled	% Total
Turdho	222	15	6.7	Sabatuuni	278	5	1.8
Demo	412	10	2.4	Mana Moofo	197	5	2.5
Janaale Jaay	54	7	13.0	Buulo Faraxan	30	7	23.0
Bangeeni	241	13	5.3	Mashaqa	192	7	3.6
Yiireey	140	5	3.5	Shambogey	24	5	21.0
Bendar Jadiid	122	12	9.8	Towfiq	23	6	26.0
				Buulo Gaddud	225	5	2.2
				Cabdulle Biroole	NA	4	NA
				Canjeel	85	4	4.7
Total		62				48	

C. MAIZE PRODUCTION SYSTEM

1. Characteristics of the System

Farm production in the region derives from small farms on an average of 2.5 hectares cultivated per family of eight. There are on average three

people of working age (between the ages of 16 and 60) per family. All production activities, with the exception of plowing which is often done by tractor, are performed by manual labor. No modern inputs such as improved seeds, fertilizers, pesticides or improved techniques are employed. There exists no modern system to control or manage flooding, or provide water for crops when rainfall is inadequate.

Nearly all of the sampled households produced maize in the year to which the survey refers, and many households on the east side of the river produced sesame and cotton as well (see Table 6.2). Figures in Table 6.2 and the subsequent analysis refer to production from the "Gu" season of 1986, which was a season of high, well-timed rainfall and good harvests. All data pertaining to this season should be considered upper limits, especially for yields and production of all three crops.

TABLE 6.2: PERCENT OF HOUSEHOLD SAMPLE PRODUCING CROPS

	East		West		Total	
Source	Number of HHs	Percent HHs	Number of HHs	Percent HHs	Number of HHs	Percent HHs
Maize	61	98%	48	100%	109	99%
Sesame	28	45%	16	34%	44	40%
Cotton	37	60%	7	15%	44	40%
Total:	62		48		110	

2. Production Costs

Table 6.3 presents data on basic characteristics of the farms. It shows that yields in the east are higher than the west, which is likely due to the better soils and periodic flooding, which provides good soil moisture there. The higher cost per hectare and per kilogram in the east results from the higher percentage of labor hired. To the east, 42 percent of all labor, measured in terms of labor days for production, is hired, while to the west only 25 percent is hired. The table also shows that even after selling a higher portion of their harvest farm households in the east have more maize available per capita than in the west. This is the quantity that remains after sales, gifts, and losses are accounted for, divided by the number of people per household.

TABLE 6.3: MAIZE PRODUCTION STATISTICS

Variable	East	West	Average
Size of sample	62	48	110
Percent farmed land in maize	78%	84%	81%
Area of maize planted (Ha)	1.9	1.9	1.9
Volume of maize harvested (Kg)	1583	1220	1425
Maize yield (Kgs/Ha)	833.2	642.1	749.8
Production costs per hectare (SoSh/Ha)	5469	3782	4733
Production costs per kilogram (SoSh/kg)	7.9	5.7	6.9
Percent Maize harvest sold	32.0%	25.0%	28.9%
Average price received (SoSh/Kg)	17.4	16.7	17.1
Maize available per capita (Kg)[a]	125	95	112

Note: (a) Maize availability per capita is quantity available to households after sales, gifts and losses are deducted, divided by number of household members.

D. INCOMES AND EMPLOYMENT

1. Total Household Incomes

Survey results reveal that on average 20 percent of farm household income derives from farming activities, 19 percent from wage labor, 15 percent from animal sales, and 46 percent from sources such as shops, full-time off-farm employment and other activities. These percentages vary between villages in the "east" and those in the "west" (see Table 6.4).

TABLE 6.4: SOURCES OF INCOME FOR FARM HOUSEHOLDS

Source	East		West		Average	
	Income (SoSh)	% Total income	Income (SoSh)	% Total income	Income (SoSh)	% Total income
Farming	9768	33.4%	-122	-.5%	5452	19.6%
Wages from farm labor	3409	11.6%	7442	28.7%	5169	18.6%
Animal sales	2877	9.8%	5955	23.0%	4220	15.2%
Other	13212	45.1%	12632	48.8%	12959	46.6%
Total:	29266	100.0%	25907	100.0%	27800	100.0%

Farmers in the east derive 33 percent of total income from farming, while those in the west are basically farming to feed themselves. Farm income is calculated to be the value of maize, sesame, and cotton sales, net of actual production and marketing costs. The table reveals that households in the west earn 29 percent of their total income from wage labor on banana estates, the large agricultural projects, or on other farms, while those in the east earn 12 percent from these sources. This seems logical since farmers who cannot realize an income from their own farms would seek employment elsewhere. Working on banana estates or on other farms is the easiest means to earn wages. Animal sales make up a relatively small percentage of total income. Few respondents reported having made animal sales, but those that were recorded were in villages in the Kismayo District, where farmers own small numbers of animals. The main source of income for both parts of the sample was from other activities such as shopkeeping, skilled or semi-skilled labor, sales of mats or other items. These are discussed in further detail in Chapter XI.

2. Farming Incomes

As Table 6.5 shows, farm households to the east generally are more diversified and sell maize, sesame, and cotton to earn incomes that average SoSh 9768 ($48.84) per year. Villages to the west earn a negative income of SoSh 122, since their production costs are higher than the income earned from crop sales. Production costs are high relative to the value of sales; consequently, net maize income is negative for both sets of households. Sesame and cotton provide better returns, since most harvested quantities of sesame and all of the cotton crop is sold.

TABLE 6.5: NET FARM INCOME

	East		West		Total	
Crop	Income (SoSh)	% Total income	Income (SoSh)	% Total income	Income (SoSh)	% Total income
Maize	-1290	-13.2%	-1877	1538.5%	-1546	-28.4%
Sesame	3193	32.7%	880	-721.3%	2184	40.1%
Cotton	7865	80.5%	875	-717.2%	4815	88.3%
Total:	9768	100.0%	-122	100.0%	5452	100.0%

Farmers in the east derive much higher incomes from sesame and cotton than those in the west. They sell off some maize but not enough to offset their production costs, which include monies actually paid out to hired workers, with no imputed value to the family's labor. Despite the negative net income from maize production, farmers to the east have positive net incomes from sesame and cotton, which is not the case for producers to the west.

To illustrate that there is an economic benefit to production, Table 6.6 presents net income figures combined with the value of maize and sesame consumed by the family. The figures include an inputed value for the portion of the crop that the household consumes, which is food which the family does not have to purchase. Households to the east have higher gross incomes that are more than double those to the west.

TABLE 6.6: GROSS FARM INCOME#

	East		West		Total	
Crop	Income (SoSh)	% Total income	Income (SoSh)	% Total income	Income (SoSh)	% Total income
Maize	6690	34.4%	4160	47.5%	5586	37.8%
Sesame	4870	25.1%	3715	42.5%	4366	29.6%
Cotton	7865	40.5%	875	10.0%	4815	32.6%
Total:	19425	100.0%	8750	100.0%	14767	100.0%

Note: (#) Gross farm income is the value of subsistence production plus farm income.

E. INPUTS

Inputs used for maize production consist of tractor hire for land preparation, local varieties of seed, manual labor for production activities, and locally purchased sacks. No modern inputs are used. Credit is obtained informally through kinship.

1. Tractor Hire

Of the farms sampled, 76 percent hired tractors for preparing soil. Because the soils are heavy and have a high clay content, it is necessary to use tractors to break up the soil before planting. Though the cost of hiring a tractor can be as much as 50 percent of total production costs, many farmers find the cash to do it. Tractors are hired from the nearby estates and contracts are made between the villagers and the tractor driver. Though there is a parastatal in the region which is supposed to provide machines for hire to farmers, it is not functioning, so farmers must hire tractors from the private sector. Generally, farmers can find tractors for hire, even at times of peak demand. Tractor hire is the one input that is made available to the local farmers from the banana estates.

2. Labor

Farm households provide their own labor for maize production and also hire outside. In the sample, farms to the east hired 42 percent of the total labor required for production, while farms to the west hired only 25 percent of all labor. Labor costs accounted for 42 percent and 32 percent, respectively of total production costs for farms to the east and west. Wages are paid by the unit of land and are more or less fixed. Most villagers can state how much it costs per hectare for a certain activity, though rates change slightly according to supply and demand of labor. Peak period demand obviously pushes up labor wage rates. Despite the fact that banana estates are numerous and they have a fairly steady demand for laborers, few farmers reported that labor shortages occur. Wages for hired labor on traditional farms are on average higher than on estates, and this may account for the relative abundance of labor at peak periods. Though shortage of labor is not a major problem, many farmers complained that the quality of hired labor was far below that of their own families.

In some villages, "helping" groups are organized to work collectively in neighbors' fields when requested. This arrangement where one farmer requests other farmers to help with planting or harvesting is done on a reciprocal basis. No monetary value is placed on the reciprocal assistance transaction.

3. Seeds

Seeds are selected from a farmer's own store or purchased from someone who offers them for sale. The seeds are unimproved local varieties that often have a low germination rate. Though local varieties are often low yielding, they are drought resistant. There are no improved seeds available that are suitable for the region.

4. Input Delivery

The production system is based on low-yielding, traditional technology, with few modern inputs. Besides tractor hire, there are no modern inputs available to the region's farmers. This is partly so because there is no useful agronomic research that has been done on behalf of the maize farmers, and there are no innovations that have been tested and offered for their use. Though conceivably some of the inputs available to the banana estates could be distributed through private channels to local maize farmers, but they lack the technical knowledge to make use of them. Seeds have to be improved that can take advantage of fertilizers and more importantly, water is necessary to improve the efficiency of the seeds and fertilizers. But with no system of water management or irrigation available to most farmers, they have no possibility to improve their output.

F. OUTPUT MARKETING CHANNELS

Maize is grown as both a subsistence crop and a cash crop. It is the preferred staple food crop, but it is also a source of income. Farmers

reported that they sold 30 percent of their harvest. The quantity sold from a harvest depends on several factors: production of other cash crops, cash needs, and stocks in granaries. Maize is also given as gifts, as patronage, and often to pay back loans. When farmers choose to market their maize, they do so primarily through private traders or through the Agricultural Development Corporation.

1. Private Traders

When there is a good harvest in the region, local traders become active, and traders from other regions of the country arrive to purchase maize. Traders typically rent a storeroom in the village and make it known that they are ready to buy from farmers. Occasionally they circulate through the village making their presence known, but more often they wait for farmers to bring maize to them. Maize is brought to the traders, weighed and inspected, a price is settled on, and money is paid out immediately. Generally, both farmers and traders have knowledge about current market conditions, so the price is established and settled, usually with little dispute. Disputes arise, however, if the quality of maize is questionable. This happens if farmers sell stocks from previous years, but normally the maize is of comparable quality if it is a new harvest. In a year of abundance, farmers have little leverage in making a price.

The arrangement in which traders come to the village and purchase grain is by far the most common one. Nearly 90 percent of survey respondents stated that they sold in the village to traders. This is the most efficient arrangement, for it saves farmers from moving their grain any appreciable distance. Farmers reported that they have no long-standing or permanent relationship with traders; they sell to whomever offers the best price. Traders reported that their interaction is strictly economic, nonprice factors seldom playing a part in their transactions. There is no long-term or fixed relationship built up in the marketing chain because supplies vary so much from year to year, and the marketing period is relatively confined. Traders simply take advantage of purchasing possibilities whenever possible.

a. Trader Costs and Margins

Trader interviews were done in late 1987, a year after the harvest referred to in the production surveys. Production during 1987 was very poor so there was almost no locally produced maize marketed that year. The information provided by traders referred to maize they were bringing to the region from the Shabelle. The costs reported in Table 6.7 approximate those for locally produced maize sold in the region.

To make sizeable net incomes, traders must trade in large quantities of maize, but many of them are hampered in this by lack of capital. All traders interviewed reported that surplus income after consumption is put back into trade. None of them has amassed enough money to invest in other businesses or assets. Turnover varies seasonally and depends most on their cash on hand.

TABLE 6.7: AVERAGE MAIZE TRADER COSTS AND MARGINS (for one 96 Kg Sack)

Category	Costs (SoSh)	% Total Marketing Costs
Purchase Price	1779.17	83.0
Sacks	51.67	2.9
Transport	119.58	6.7
Handling	25.75	1.4
Taxes	84.25	4.7
Storage	17.50	0.9
Milling	46.67	2.6
Total Costs	2124.59	92.0
Selling Price	2297.75	100.0
Net income	173.16	

2. Agricultural Development Corporation (ADC).

Farmers have a second option of selling to the ADC. This parastatal was created in the 1970s to buy and sell grain under a government sanctioned monopoly. All private trade was illegal and producers were limited in the stocks they could maintain. Over the past five years, ADC operations and policies have been liberalized, diminishing its role in grain marketing. After 1984, grain trade through private channels was legalized and storage restrictions on producers were abolished. Private trade became very active. ADC consequently has become the buyer of last resort in years when supply exceeds demand. As the ADC offer price is usually below the market level, it buys and sells little grain during normal years. But since ADC sets a floor price during years of good harvests, it sometimes obtains tremendous supplies of grain. This happened in 1986 when ADC bought heavily during the harvest and accumulated sizeable surpluses. The price it offered was above the low market price available in the region. Traders who bought from producers were allowed to sell to ADC and contributed most to its stocks.

ADC sets up buying stations throughout the region in 14 locations and farmers deliver their grain to these stations. These points are fixed but there are no permanent facilities at the locations. ADC sends officials to the villages to buy the crops when farmers have informed them that they are ready to sell. Cash is paid immediately, though ADC is sometimes compelled to delay payment. Alternatively, farmers may bring their produce to buying stations in Kismayo or Jamaame where they are offered at a premium price. However, the price differential more or less equals the cost of transport to the warehouse. Traders take advantage of the premium price more than farmers, since they can achieve economies of scale in the amounts they transport.

Although ADC has continued to operate with a limited role, it is not a practical marketing option for most producers except during years of over-abundance. Few farmers would consider selling their maize to ADC unless there was no alternative to taking the floor price that ADC typically offers. This is why less than 5 percent of farmers surveyed sold crops to ADC.

3. Linkages

The production and marketing system described above is characterized by yearly fluctuations in production. In some years, a portion of regional demand can be met by local production, but in most years there is a regional deficit. When there is sufficient production in the region, the marketing system springs to life to move the grain from areas of surplus to areas of deficit. In such times, regional demand is met by local production and excess supplies are exported from the region. In years of poor production, local maize demand is met by supplies imported from the Shabelle and elsewhere. This means that exchange from the rural areas to the urban areas is limited to years of high production. In such years revenues generated from the production and sale of grain are substantial. In years of poor production, exchange runs the opposite direction from the urban centers to the rural areas. Revenue from trade then flows out of the region, because maize originates from elsewhere, and local revenues are generated only through trading not production, a matter which is taken up again in Chapter XI.

4. Market Prices

Market prices for maize vary throughout the year due to fluctuations in supplies of locally produced and imported maize. Farmers in the Lower Jubba usually cannot take advantage of these fluctuations because most of them are compelled to sell their surpluses immediately after harvest. Over 75 percent of the sampled farmers sold their maize within three months after the

TABLE 6.8: RETAIL MAIZE PRICES, JUNE 1987-JANUARY 1988 (SoSh/Kg)

Month	Market		
	Jilib	Kismayo	Mogadishu
June	22.2	24.3	29.0
July	23.0	27.8	28.0
August	23.3	--	23.7
September	22.2	20.3	19.3
October	21.3	21.1	17.3
November	20.8	19.9	17.3
December	24.1	24.3	24.0
January	34.2	33.1	28.8

Notes: Averages from four weekly observations.
Source: Ministry of Agriculture, Price Monitoring Project.

harvest, claiming they had immediate cash needs to meet. What they do store they consume themselves.

Table 6.8 presents market prices for the period June 1987 through January 1988 to illustrate how maize prices vary seasonally. Though this is a limited time series, it is obvious that prices declined in these three markets around harvest time after October. The price in Mogadishu was the lowest, perhaps because of the large quantities of maize being delivered to the markets from the Shabelle and the availability of food aid. Prices fell in Kismayo, reflecting supplies being brought to the region from the Shabelle also. The local maize harvest was poor, so little if any local maize was sold on markets in the region. Shabelle is the major source of maize for both Kismayo and Mogadishu, although prices are slightly higher in Kismayo, reflecting the longer distances and higher transportation costs.

G. REGIONAL SUPPLY AND DEMAND FOR MAIZE

The Lower Jubba is often regarded as an area with the potential to generate surplus food, particularly maize, for distribution to other parts of the country. This section presents data to construct a picture of production, supply, and demand in the five districts of the region for maize and to estimate the level of surplus or deficit.

1. Production and supply.

The 1986 harvest for maize was by many accounts one of the best. According to the survey of farm households, average production per household was 1,424 kilograms (see Table 6.9). Within the five districts, an estimated 23,046 households planted and harvested a maize crop. Assuming the sample of farm households is representative of the region as a whole, this would yield a figure for total output of 32,827 tons. Of this, 70 percent was consumed or retained by households and 30 percent was sold.

TABLE 6.9: ESTIMATED REGIONAL PRODUCTION AND SUPPLY OF MAIZE

(1)	Number of households producing maize	23,046
(2)	Average production per household (Kg)	1,424
(3)	Total regional production (Tons)	32,827
(4)	Supply, or quantity sold (30%) (Tons)	9,832

2. Consumption and demand

According to field surveys, the per capita consumption of maize varied from a low of 67 kilograms among households in large towns, to a high of 96 kilograms among herder households (Table 6.10). The figure for herders

may be higher than normal, because the surveys were conducted during a season of poor rainfall, which limited milk production and boosted consumption of grain in its place. Total consumption for all households amounts to about 31,500 tons a year.

TABLE 6.10: REGIONAL CONSUMPTION AND MARKET DEMAND FOR MAIZE

Consumption: Sector	Population#	Per capita consumption	Total consumption
Large town	90984	67	6096
Small town	90730	78	7077
Rural/farm	80216	78	6257
Herders	125829	96	12080
Total:	387759		31509
Market Demand:			
Large town nonfarm HHs	72015	67	4825
Herders	125829	96	12080
Other HHs not producing maize	20269	78	1581
Total:	218113		18486

Note: (#) Estimates from chapter II.

Most households in the region grow enough maize to meet their own consumption needs. Three groups that do not are nonfarm households in the large towns, herders, and other households in small towns and rural areas where conditions are unsuitable, especially in Afmadow District. The combined demand from these households is estimated at 18,486 tons a year.

From a comparison of these estimates of supply and demand, Table 6.11 shows that local producers in the region were able to meet only 53 percent of total market demand from households in the five districts. However, there is reason to believe that the estimate of supply may be on the low side. Table 6.10 shows average farm household consumption to be in the order of 78 kilograms per person, while Table 6.3 shows that after sales, losses, and gifts, an average of 110 kilograms per person remain available, which leaves a difference of 32 kilograms per person to be accounted for. Households may store part of this as insurance against a poor harvest the next season, but they may also be underreporting their volume of sales.

In any event, it is clear that even in a relatively good year like 1986, any surplus from the Lower Jubba is likely to go first to meet demand from other households within the region, which means there is little likelihood in the near term of the region producing a surplus for the rest of the

country. In years with poorer harvests, larger amounts of maize would obviously have to be imported from outside the region.

TABLE 6.11: ESTIMATED REGIONAL SUPPLY AND DEMAND FOR MAIZE

(1)	Market demand for maize (tons)	18,486
(2)	Market supply of maize (tons)	9,832
(3)	Estimated net deficit (tons)	8,654
(4)	Regional supply as % of demand	53%
(5)	Average price (SoSh / ton)#	24,400
(6)	Value of marketed maize (SoSh 000s)	239,900
(7)	Total value of maize harvest (SoSh 000s)	787,848

Notes:
(#) The market price is an average price for Kismayo from June 1987 - January 1988.

H. CONCLUSIONS

It is evident that both the best productivity and potential for improvement lie with the villages to the east. Producers in these villages have higher yields, better land, and higher incomes from farming. They are more diversified in their production activities and sources of income.

When there is a good maize harvest, up to 30 percent of it is marketed. Estimates in Table 6.11 show that the value of regional maize output is in the order of SoSh 240 million ($1,200,000), which circulates within the region. When local production is sold locally, producers realize the net incomes, and local traders realize a return on trading activities. When maize is imported from the Shabelle, the only beneficiaries are the traders and the shopkeepers who sell it. One development priority, therefore, is to explore means for boosting local maize production so that a higher proportion of local demand can be met. This would result in more local income generation, less outflow of local income to bring maize into the region, and more local spending benfitting businesses in urban centers.

For the present, the most practicable and effective action that could be taken is to improve the water management of the inundated areas in Jamaame District, so that these areas can continue to produce grain. This is one area with relatively high yields and with ample water. Without much difficulty the management of this water can be improved.

CHAPTER VII

BANANA COMMODITY SYSTEM

A. INTRODUCTION

This chapter examines the banana commodity system, including recent developments in the production and marketing of bananas, the structure of the system, and its performance in terms of input delivery and output marketing. It also presents the costs and returns realized by banana producers and examines revenue generation from input delivery and output marketing. The analysis utilizes information gathered from field surveys with managers of ten banana estates in the Lower Jubba Valley in December 1987 and January 1988, from the regional office of Somalfruit, and from various written sources.

B. OVERVIEW OF THE BANANA COMMODITY SYSTEM

1. Brief History of the Banana Sector

Banana estates were first established in the Lower Jubba Valley in the mid-1920s by Italian farmers who wanted to exploit the expanding banana markets in Italy. The favored status granted by the Italian government to its colonies, particularly for the production of bananas in Somalia and especially in the Lower Jubba, encouraged the initial growth of the industry. It flourished until the British, who occupied the region from 1939 to 1945, forced estate owners to abandon banana production in favor of rice. During the 1950s, Italian farmers rebuilt the industry, and banana production increased between 1950 and 1974, mainly because Somalia continued to enjoy preferential access to the Italian market. In 1950, bananas already provided 31 percent of all Somalia's exports, and during the years of peak production in the early to mid-1970s they accounted for as much as 61 percent.

Throughout the 1960s Italian consumer taxes applicable to banana consumption favored Somali bananas, but by 1970 the Italian government changed many of the taxes and so erased this favored status. In addition, a steady post-independence emigration by Italian farmers from Somalia led to a sharp decline in the industry from a high of 133,000 tons of exports in 1972 to 36,000 in 1979. In the Jubba alone, the area under plantations declined from over 5,000 hectares in 1973 to less than 3,000 hectares in 1978, and exports fell from over 73,000 tons in 1972 to less than 25,000 tons in 1978. The decline was due to several factors, including low prices paid to producers, problems in organizing exports to the Middle East, and foreign exchange shortages that reduced the availability of inputs. It was not until the early 1980s that production began to improve when an Italian sponsored scheme to revive the industry was implemented.

TABLE 7.1: BANANA PRODUCTION, JUBBA VALLEY, AND SOMALIA, 1972 TO 1987

Year	Jubba Valley		Somalia		Percent total	
	Ha	Tons	Ha	Tons	Ha	Prodn
1972	4,428	73,282	9,128	133,934	48	55
1973	5,075	65,208	9,770	111,931	52	59
1974	3,964	65,830	9,037	107,299	44	61
1975	4,133	46,846	8,342	81,841	50	58
1976	3,435	38,658	7,422	72,531	46	53
1977	2,488	25,000	6,383	53,812	39	47
1978	2,820	24,218	6,831	57,079	41	42
1979	--	--	3,816	36,657	--	--
1980	1,050	--	3,214	35,491	32	--
1981	1,804	15,073	4,100	34,255	44	44
1982	1,650	21,786	4,800	50,655	21	42
1983	2,052	27,478	4,700	62,448	44	44
1984	2,571	21,717	4,492	48,385	55	45
1985	2,010	17,907	5,121	45,590	39	39
1986	2,280	23,516	5,839	58,077	39	40
1987	2,300	22,708	4,037	64,294	62	35

Source: MacDonald, 1986; World Bank, 1985.

2. Characteristics of the Banana Production System

a. Unit of Production and Ownership of Estates

Banana production in the Lower Jubba occupies an estimated 2,300 hectares of land. The unit of production is the estate, an individually owned and operated farm which has its own management, machinery, and staff and makes its own production decisicns. There are officially 54 different estates in the region operating under various kinds of ownership arrangements. The Ministry of Agriculture owns and operates four estates, which for purposes of this analysis have been aggregated together since they all employ the same management and staff. This makes an effective total of 51 estates. The holding company that controls Somalfruit owns and operates one large, capital intensive high technology estate known as Horseed. Somali companies own other estates, Italian companies own two, and several private Italians own individual estates. The majority of estate owners in the Lower Jubba, however, are individual Somalis.

b. Production

Table 7.2 presents data collected from the estate survey, excluding Horseed, an anomoly among the estates. Table 7.2 is impressive in the clear indications of low productivity it provides.

TABLE 7.2: GENERAL DATA ON NINE BANANA ESTATES, 1987 AVERAGES

	Category	Averages
(1)	Total hectares of estates	496.9
(2)	New hectares planted (1-9 months old)	21.2
(3)	Productive hectares	46.3
(4)	Total Hectares in production (2+3)	67.5
(5)	Export Yield (Tons/Ha)	13.7
(6)	Total Yield (Tons/Ha)	18.3
(7)	Export Prod (Tons)	565.0
(8)	Total Prod (Tons)	753.0
(9)	Value Exports (000 SoSh)	9,847.0
(10)	Value Domestic Consumption (000 SoSh)	754.0
(11)	Value Total Sales (9+10) (000 SoSh)	10,601.0

Bananas are grown near the Jubba River on irrigated fields that must be cleared of bush, levelled, and fed with irrigation canals. Banana fields are rotated constantly: after old trees are removed, the land is left fallow for some time. Every month old hectares are taken out of production and new hectares come into production, resulting in a moving average of productive hectares.

Bananas are planted from cuttings, which are constantly trimmed and thinned. Trees bear fruit after a period of nine months and can remain productive for up to six years if properly cared for. However, in the Jubba, trees are typically taken out of production after three to four years because of declining yields. The trees must be fertilized and sprayed with pesticides and the area around the trees cleared of weeds. The main activities in the preparation of land are done by heavy machinery, while the maintenance and production activities such as tree trimming, weeding, and canal cleaning, are done by manual labor, both permanent employees and casual labor. Harvesting is done by hand, often by women.

Banana productivity in the Lower Jubba is among the lowest in the world, despite the fact the area has relatively fertile soils, high annual rainfall (for Somalia), and an abundance of water with which to irrigate farms during the dry season. Estates in the Lower Jubba have annual yields that range from 6 to 21 tons of export quality bananas per hectare, which contrasts with typical yields of 25 to 50 tons per hectare on estates in Central and South America.

Table 7.3 illustrates the variation in yield within the sample during the study period. Horseed shows the highest yield as it is a more capital intensive operation, with well managed fields. Yields vary from season to season and from field to field and respond to changes in soil chemistry and maintenance.

TABLE 7.3: BANANA YIELDS FROM BANANA ESTATES, 1987 (Tons/Hectare)

Estate	Total Yield	Export Yield
1.	17.6	13.2
2.	23.9	17.9
3.	12.1	9.1
4.	25.3	19.0
5.	21.0	15.7
6.	9.2	6.9
7.	13.2	9.9
8.	19.1	14.3
9.	23.1	17.3
10.(Horseed)	28.5	21.3
Average (without Horseed)	18.3	13.7

c. Limitations of the Production System

Certain characteristics of banana production in the Lower Jubba severely limit productivity. These include the absence of any systematic research pertinent to banana production in the Lower Jubba, soil conditions, climate, floods, and low river flows.

i. Research. The limited agronomic research that is done on bananas in Somalia is performed by Somalfruit, mostly by trial and error rather than by scientific method. There is no research capability at the national or regional level to investigate adequately problems relating to banana production in the Lower Jubba.

ii. Soils. The soils near the river are relatively fertile, but their high clay content prevents proper drainage. This results in waterlogging of plants. Fields must be graded for good drainage, but this is a costly operation. Many estates forgo the cost and risk the problems associated with poor drainage. In addition, no thorough soil analysis is done in the region to determine the conditions or the chemical needs of estate lands, especially with regard to salt build-up, an increasing problem for many estates.

iii. Climate. Though average annual rainfall reaches 600mm in the Lower Jubba Valley, it occurs mostly during one season and thus necessitates irrigation up to 30 times each year. This drives up production costs and, over the long term, can result in salt build-up. In addition, heavy seasonal storms can cause flooding of fields, particularly when they are not properly graded for adequate drainage. Persistent winds from June to September cause scarring and bruising of developing fruit as well as

damage to roots. Windbreaks can minimize this damage, but few estates seem to plant appropriate trees for that purpose.

iv. Flooding. Since most of the fields are adjacent to or very close to the river, they are susceptible to the periodic flooding that occurs in the Lower Jubba Valley. Even if fields are graded properly for normal conditions, this offers no protection against the large-scale inundations that often waterlog the trees and fields for weeks at a time and force producers to abandon the land. Several hundred hectares of banana fields were abandoned due to flooding in June 1987. The abandonment of active fields in which producers have made investments obviously represents an economic loss. The need to leave the land fallow for several years after flooding forces some farmers to take other land out of fallow prematurely, or to clear new fields which they intended to leave until a later date.

v. Low River Flows. Natural seasonal fluctuations in the river's flow play havoc with the irrigation regimes of the farms. At the height of the dry season when fields must be watered every 10 days to two weeks, water flows in the Jubba can be at their lowest. As existing banana estates expand and as new ones become operational, demands for water for bananas have increased. But there are other demands for river water which together far outstrip those of the estates, including those of the large-scale agricultural projects at Mogambo, the Jubba sugar project, and the Fanoole rice scheme. Their demands are year round and substantial and will likely increase even more as they continue to expand areas under cultivation. Though the natural level of water in the river is adequate throughout much of the year to satisfy demand on the part of the banana estates, during the most critical periods of the dry season available water can fall to less than 50 percent of need. And there are periods when the river is so low that little water can be pumped out for several weeks. The consequent stress that this places on plants can reduce yields greatly. In addition, during periods of reduced flow, salt water intrudes from the ocean far up the river, making what flow there is unusable.

Table 7.4 provides an indication of the long-term downward trend in production and yields reported for the region.

C. ORGANIZATION OF THE INPUT DELIVERY AND EXPORT MARKETING SYSTEM

1. Developments in Marketing

From 1943 to 1968, banana production in the Lower Jubba was organized through a growers' shareholding company that provided inputs and technical assistance and also arranged transport and export of bananas through Kismayo. In 1968 this company was amalgamated with a similar company operating in the Shabelle, Somalia's other banana producing region, to form a general shareholding company, Somalbanane SpA, which had an Italian marketing subsidiary to market the bananas in Italy and the Middle East. In 1970, Somalbanane was nationalized to form the National Banana Board which took over all the functions of Somalbanane, including its 75 percent share in the marketing agent SMO, which was a subsidiary. In 1983, with the

liberalization of many policies concerning parastatals, Somalfruit was established as a joint venture between the Government of Somalia and private Italian interests to replace the National Banana Board and to oversee the banana industry. Though the management of Somalfruit is Italian, the government is represented on the Board of Directors and appoints the company president.

TABLE 7.4: BANANA HECTARES AND YIELDS IN THE JUBBA VALLEY, 1972 TO 1986

Year	Ha in Prod.	Exportable Prod. (Tons)	Export Yield (T/Ha)
1972	4,428	73,282	16.5
1973	5,075	65,208	12.8
1974	3,964	65,830	16.6
1975	4,133	46,846	11.3
1976	3,435	38,658	11.3
1977	2,488	25,000	10.0
1978	2,820	24,218	8.6
1979	--	--	--
1980	1,050	--	--
1981	1,804	15,073	8.3
1982	1,650	21,786	13.2
1983	2,052	27,478	13.4
1984	2,571	21,715	8.3
1985	2,010	17,907	8.9
1986	2,280	23,516	10.3
1987	2,300	22,708	9.0

Source: MacDonald, 1986; Somalfruit.

2. Somalfruit's Current Responsibilities

Somalfruit's responsibilities include:

a) operating as the sole exporter of the country's banana crop;
b) marketing through its agent CAMAR;
c) arranging the collection and export of fruit from its own and private packing plants;
d) supervising the quality of fruit at the packing stations;
e) importing most of the inputs, such as fuel, fertilizers and chemicals, tractors, pumps, machinery and spare parts for resale;
f) providing medium-term, interest-free credit for machinery hire and purchase;
g) operating a factory and workshop for the manufacture of spare parts and the servicing of machinery;

h) operating a factory for the manufacture of cardboard packing cartons;
i) providing technical assistance to banana estates.

3. Current Conditions

Somalfruit operates as a monopoly selling inputs to producers and as a monopsony in purchasing bananas for export. It operates with special privileges granted by the government, such as import tax exemptions and financial arrangements with banks not available to other importers or exporters. Its special status derives from the relationship established between Somalfruit's Italian managers and the Somali government. Somalfruit operates, for the most part, unencumbered by restrictions or interference from government agencies.

Somalfruit's status as a quasi-public institution managed by Italian nationals means that its records are not open to public scrutiny. Conclusions about costs and returns can only be inferred from the often contradictory information available and from discussions with producers based on their financial transactions with Somalfruit. Not even the producers have much reliable information, since many estate managers and owners keep poor records.

a. Input Delivery and Services

Because of its favored status, Somalfruit has flexibility in using various exchange rates in its foreign transactions. By manipulating prices according to different exchange rates, it has considerable leeway in setting profit margins on the input products it sells to producers. Somalfruit also imports farm machinery and offers services to estates that require heavy equipment for levelling and clearing ground, digging canals, and preparing fields. The charges for these services are shown in Table 7.5. Knowledgeable producers and observers of Somalfruit contend that most of its profits are made not on the export of bananas but on these services and the sale of other inputs. Producers may pay for these services on credit, and Somalfruit deducts the cost from payments to producers when they deliver bananas to the packing stations.

Somalfruit's monopoly position and its special treatment by the government translates into a power that redistributes income from the producers to Somalfruit through the sale of inputs and services. But much of this income is then taken out of the region rather than being circulated locally. If the input delivery system were changed, to encourage competition by assigning a larger role to local merchants, prices to producers could be reduced and a higher proportion of revenue from sales of inputs would remain in the region.

b. Export Marketing of Bananas

Somalfruit acts as a monopsony in the purchase of bananas for export, which means producers are price takers under the control of Somalfruit. The marketing system is a relatively uncomplicated one. Somalfruit takes delivery of bananas at several packing stations throughout the region where they

TABLE 7.5: MACHINE COSTS FOR BANANA PRODUCTION

Operation	Cost (SoSh/hour)
Tractor & Plough	920
Bulldozer Levelling	1,500
Lining	920
Ditching	920
Grading	1,600
Reforming Canals	1,500
150 m Drains	1,500
Tractor & Discs	920
Preparing furrows	920
Planting & replanting	14,000
Mechanical weeding	600

Source: Somalfruit

are graded, washed, packed, and then shipped to the port of Kismayo. Somalfruit owns and operates all but one of these packing stations in the region and absorbs the associated costs for preparing bananas for export.

i. Grading. Somalfruit personnel grade bananas at the packing stations. Estate personnel observe the grading, but final decisions are made by Somalfruit staff. Most production is assigned the lowest few grades, earning the lowest prices. Though some producers deliver higher quality bananas suitable for higher grades, they prefer to put them in lower grades because at the higher grade the rejection rate offsets the improved unit price. Somalfruit grades bananas again at the port on a random basis and can downgrade shipments at this point with no discussion with estate representatives.

ii. Pricing. Somalfruit receives an FOB price at Kismayo, 50 percent of which goes to producers. From producer shares it deducts costs of inputs and services that producers have incurred on credit. Several issues arise from this arrangement. First, Somalfruit has total control over grading; producers effectively have no influence on the grading process and thus on the prices they receive. Second, producers must accept Somalfruit's system of calculating producer FOB price shares. As with inputs, Somalfruit can use various exchange rates to convert the FOB dollar price into Somali shillings paid to producers. Since Somalfruit does not publish information on the exchange rates used in converting export earnings or pricing imported items, producers have no way of checking their accounts or knowing if they are being paid a fair price. In the absence of an independent audit of Somalfruit's accounts, producers lack confidence in the present arrangements and widely suspect that Somalfruit turns enormous profits at their expense.

c. Marketing for Local Consumption

Bananas that are not high enough in quality for export are rejected at the Somalfruit packing stations and sold to private traders who transport them to Kismayo or elsewhere in the region. Prices vary throughout the year, relative to the availability of other foods, such as grain and other fruits. There is some seasonality in banana production, with less available in the dry season, though they are generally available throughout the year. There is no set marketing chain for the bananas; traders buy them as they can and take them to various markets. Most producers estimate that they sell 20 to 25 percent of their output for the local market. Since producers do not keep records of these sales, an estimate of 25 percent of production was used to calculate earnings from local sales in Table 7.7. The price for 1987 was 400 Shillings ($2.00) per 100 kilograms.

D. COSTS OF PRODUCTION

1. Land Preparation and Production Cost

Land preparation costs, which include clearing, levelling, plowing, harrowing, canal construction, and drainage, average SoSh 59,951 ($300) per hectare, including machinery and labor costs. Some estates have their own equipment to perform these activities on their own, and others must hire equipment from Somalfruit.

Production costs include planting, fertilizer, pesticides, plant thinning and trimming, irrigation, weeding, canal cleaning, drainage, harvesting, and transport to the packing stations. Costs are SoSh 151,848 ($760) per hectare. Most of these activities are performed with manual labor, with the cost of inputs such as fuel for running irrigation pumps, fertilizer and pesticides calculated into the cost of the individual activities. Management costs were not reported by estate managers and have been estimated in Table 7.6. "Additional costs" include spare parts, inflation, and other unforeseen costs. Depreciation is for wear and tear on machinery and buildings, and on the operation in general.

Land preparation and production costs together amount to SoSh 211,799 ($1,060) per hectare.

2. Net Incomes

Table 7.7 presents data on production levels and net incomes to estates. Although the figures in the table, like all money figures related to banana production, must be taken as rough estimates, the data, nevertheless, show that on average net incomes are low. Some of the estate managers who knew their actual net income figures reported higher levels than this, but their operations are presumably better managed than many others, so their income would be expected to be higher. The figure of SoSh 440,000 ($2,200) is indicative of net incomes for many estates.

TABLE 7.6: AVERAGE PRODUCTION COSTS FOR ESTATES, 1987 (SoSh.)

(1)	Average number of new hectares	21.2
(2)	Cost per new hectare	59,951
(3)	Cost of new hectares (1x2)	1,270,961
(4)	Average number of hectares in production	67.5
(5)	Cost per hectare in production	151,848
(6)	Cost of hectares in production (4x5)	7,030,562
(7)	Total land costs (3+6)	8,301,523
(8)	Management (2.5% of 7)	207,538
(9)	Additional costs (5% of 7)	451,076
(10)	Depreciation (25% of 7)	2,075,380
(11)	Total Production Cost (7+8+9+10)	10,999,517

TABLE 7.7: AVERAGE VALUE OF PRODUCTION AND NET INCOME TO ESTATES, 1987

(1)	Total production (Tons)	753
(2)	Exports (75% of 1) (Tons)	565
(3)	Local consumption (25% of 1) (tons)	188
(4)	Value exports (565 Tons x 18,900 SoSh/ton)	10,686,060
(5)	Value local consumption (188 x 4000 SoSh/ton)	753,868
(6)	Total value of sales (4+5)	11,439,918
(7)	Total Production costs (from table 7.6)	10,999,517
(8)	Net Income (6-7)	440,401

Source: Somalfruit and Survey

E. REGIONAL SITUATION

Table 7.8 combines data from the estate survey with that from Somalfruit to give a picture of regional costs and returns for banana production and sales for 1987. Calculated this way, net income to the region is SoSh 38 million ($190,000) or an average of SoSh 758,000 ($3,790) for each of the 51 estates. This figure is higher than the net income presented in Table 7.7 but still suggests rather low returns to banana production.

TABLE 7.8: AVERAGE VALUE OF PRODUCTION AND NET INCOME TO REGION, 1987

(1)	Hectares in Production	1481.7
(2)	Cost per Ha in Production	284,977
(3)	Cost Hectares in Production (1x2) (000 SoSh)	420,802
(4)	Total Production (Tons)	30,277
(5)	Exports (75% of 4) (Tons)	22,708
(6)	Local Consumption (25% of 4) (Tons)	7,569
(7)	Value Exports (5 x 18,900/T) (000 SoSh)	429,204
(8)	Value Local Consumption (6 x 4000 SoSh/Ton) (000SoSh.)	30,277
(9)	Total Value of Sales (7+8) (000 SoSh)	459,481
(8)	Net Income (9-3) (000 SoSh)	38,679

1. Factors of Production

a. Land

Table 7.2 shows that most estates have considerably more land than they cultivate. They use some of this land for other production activities, such as irrigated maize or sesame, citrus trees or coconuts, or they simply leave it fallow. A few estates earn considerable income from these activities, though most earn only a modest amount. Many of the estates that are currently under production have been in existence for many years and were enlarged by successive owners. None of the estates in the survey reported having any recent costs for land acquisition.

Though Table 7.1 shows that a decade ago there was nearly twice as much land under banana cultivation, much of the land formerly used by banana estates has been taken over during the last ten years by the large agricultural schemes. There is little land cultivated by former banana estates that now lies abandoned. The expansion currently taking place is mostly on new lands, some of which have been bought or simply taken over from villages that had been using the land for maize or sesame cultivation.

b. Capital Equipment

Each estate has an array of implements for banana cultivation such as bulldozers, graders, steam shovels, tractors, trailers, pumps, and assorted vehicles. Much of this equipment appears to have a very limited remaining service life. Most plantation buildings are older sheds or houses constructed years ago and now generally in poor repair. For the purpose of this analysis, depreciation of machinery, equipment, and buildings was approximated as 25 percent of overall production costs.

c. Labor

Estates hire permanent full-time staff who work as managers, office clerks, mechanics, drivers, field managers, and general field workers. They also hire part-time laborers on a contract basis to perform particular ongoing tasks such as planting, weeding, canal cleaning, plant trimming, and harvesting activities. None of the managers interviewed complained about a shortage of labor, though some complained about the quality. Most plantation labor comes from the neighboring villages close to the estates.

On average, estates hire 31 full-time and 122 part-time workers. Somalfruit employs 200 full-time workers as managers, office staff, drivers, workers in the carton factory, graders at packing stations, mechanics, and general workers. The total number of people working in the region in the banana sector is approximately 9400, or 6.9 percent of the working age population of 135,471 in the region's settlements.

Table 7.9 shows the level of wages paid by estates. Part-time labor is paid between 50 and 200 Shillings ($0.25 and $1.00) per day, depending on the activity. Salary figures in the table reflect what estates actually pay out. Part-time salaries translate into daily wage rates averaging 63 Shillings ($0.32) per day.

TABLE 7.9: LABOR USE ON ESTATES, WORKERS & SALARIES, 1987

	Category	Averages
(1)	Ave. No. of Full Time Workers	31
(2)	Total Full Time Salaries/Month (SoSh)	99,835
(3)	Average Salary/Month/Worker (2/1) (SoSh)	3,197
(4)	Ave No. Part Time Workers	122
(5)	Part Time Salaries/Month (SoSh)	195,336
(6)	Average Salary/Month/Worker (5/4) (SoSh)	1,592
(7)	Average Part-Time Salary/Day (SoSh) (25 working days/month)	63
(8)	Ave Total Annual Salaries (SoSh) ((2+5)x12)	3,542,053

Estate demand for farm labor rarely leads to labor shortages among farm households for two reasons. First, wage rates on farms at periods of peak demand are higher on a daily basis than on estates, which ensures that labor is normally available. Second, part-time labor is hired on an as-needed basis by the estates, permitting laborers to perform tasks on their own farms at other times, while supplementing their incomes from estate work.

2. Regional Wage Bill

Table 7.10 shows that the largest contribution to wages comes from the 50 estates with 76 percent and from Horseed with a further 18 percent, which includes salaries for full and part-time workers. Earnings from wage labor hired by Somalfruit account for only 6 percent of the total regional banana wage bill of SoSh 233 million ($1,163,905).

TABLE 7.10: ANNUAL REGIONAL WAGES FROM BANANA PRODUCTION AND MARKETING, 1987 (000 Somali Shillings)

(1) From Estates	177,102
(2) From Horseed Farm	41,079
(3) From Somalfruit	14,600
(4) Total (1+2+3)	232,781

F. CONCLUSIONS

Banana yields in the study region are low by world standards. There is no systematic research pertinent to banana production in the Lower Jubba. The soils near the river are relatively fertile, but their high clay content prevents proper drainage. Local climatic conditions are not particularly favorable. Fields are susceptible to periodic flooding. Seasonal fluctuations in the river's flow play havoc with the irrigation regimes of banana estates.

Data on costs and revenues from the production and marketing of bananas shows that producer net incomes on average are also low. The present structure of the input delivery and export marketing system work to the disadvantage of producers in denying them a greater share of export earnings. Though the banana sector generates high revenues, benefits for the region are relatively low. Much of the income is captured by Somalfruit, both from the sale of imported inputs to producers and through its export marketing activities. Moreover, owners of the banana estates reside outside the region to a large extent. Hence, a large proportion of estate net revenues are transferred outside the region.

The primary economic benefit to the region from banana production is in the form of labor wages. Approximately 9,400 out of the region's population of about 400,000 earn an annual average of SoSh 24,764 ($123) from banana production and marketing.

Thus, there are virtually no income benefits to regional households from banana marketing or from input purchases or net revenues of banana estates and rather minimal regional income benefits from labor wages. Very little of the revenues generated by bananas is spent or respent in the local

economy. Labor wages do, however, play an important role in supplementing the incomes of farm households.

CHAPTER VIII

THE CATTLE COMMODITY SYSTEM

A. INTRODUCTION

This chapter examines the rural-urban production and exchange systems associated with cattle production. The analysis in this chapter is limited to live animal sales, while the next chapter deals 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 chapter 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 Deshek Waamo, and in Kismayo District around the settlements of Yaq Bisharo 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 chapter.

Field sites were selected to represent the major cattle and camel production systems in the region and to reflect different spatial relations to the major urban center, Kismayo. The Afmadow area was picked because of its historical importance as a center of cattle production in the region, and because currently it is a major source of cattle for the major markets in the region. Locations in the Kismayo area, 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 chapter 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). The LMHP had market enumerators in four market towns in the region - Libooye, Bilis Qooqani, Afmadow, and Kismayo - and made the data available for this study.

B. PRODUCTION SYSTEM AND HOUSEHOLD ECONOMY

The average size of the pastoral household in the study region is 9.07 people. 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. As indicated in Chapter IV, 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 percent of herder households specialized in production of cattle, and three percent in camels. In the study region, more than 90 percent of herders own cattle, 50 percent own camels, 34 percent own goats, and 14 percent own sheep.

Table 8.1 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 are more than tenfold those of Afmadow herders, who, in turn, own considerably larger cattle herds than households in Kismayo District. Neither of the districts contains large numbers of goats and sheep.

TABLE 8.1: 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

2. Distribution of Livestock Ownership

Herder households in the study region display considerable variation in the ownership of cattle and camels. These discrepancies are important to note; they provide better indicators of welfare levels than do statistical averages. Figures 8.1 and 8.2 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 for 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

Figure 8.1 Cattle Herd Distribution by Household, Kismayo Region, 1987 – 1988

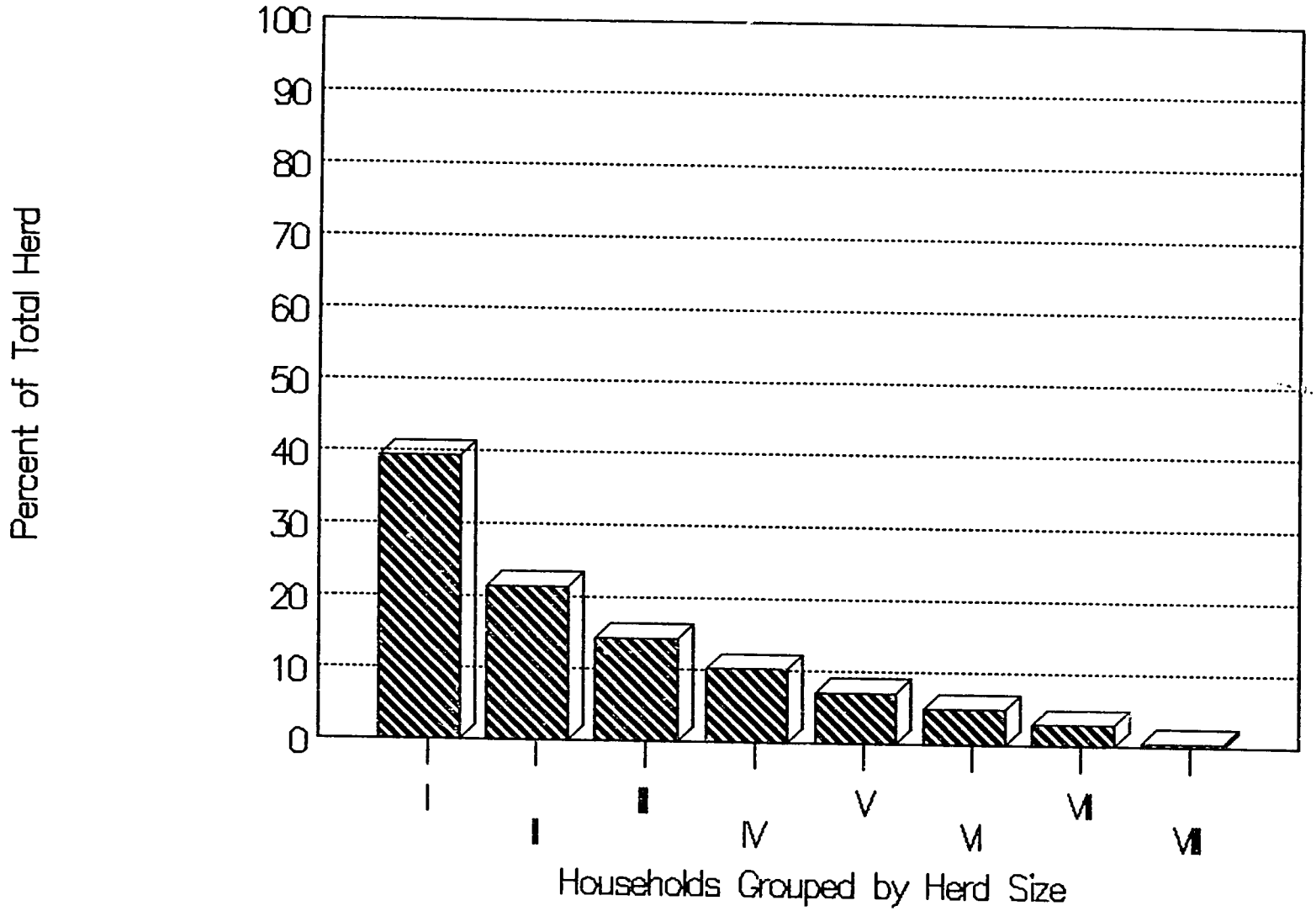
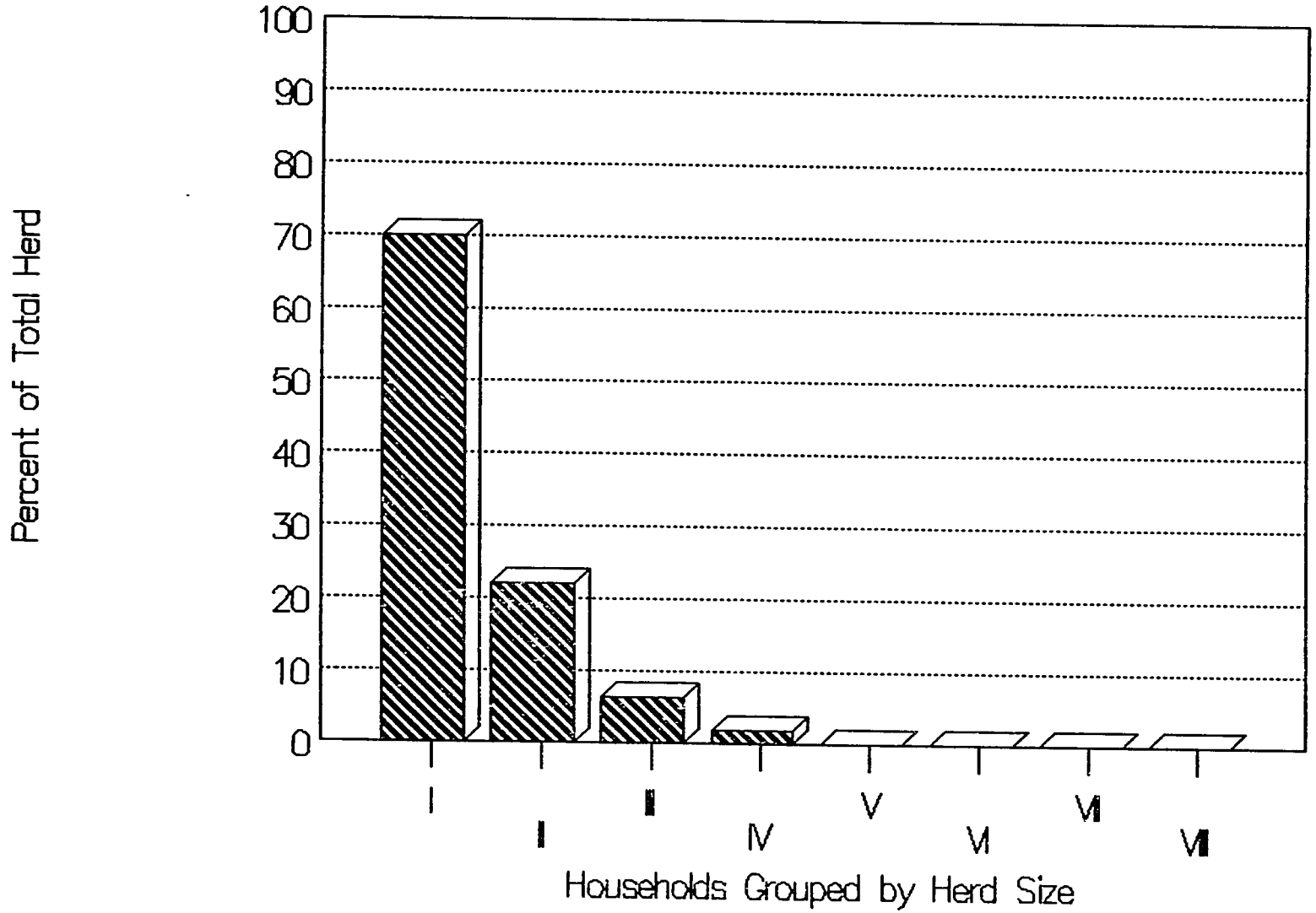


Figure 8.2 Camel Herd Distribution By Household, Kismayo Region, 1987 – 1988



of camel herders own 70 percent of the camels in the region, while almost half the herders own no camels at all, especially those in Afmadow, who account for no more than 10 percent of the camels in the study area. If Afmadow herders are excluded from the calculation of camel ownership, the distribution becomes more equitable: 12.5 percent of Kismayo 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: 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 study region are not unusual for pastoral economies. In terms of rural-urban exchange, the pattern of ownership means three things: wealthy herders tend to have access to larger traders and more lucrative markets; they are more involved in nonfarm or town-based economic activities; and consumption and expenditure patterns of large and small herders differ. These issues are addressed in subsequent sections of this report.

3. Herder Incomes

The vast majority of household income (79.4 percent) 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 8.2). The highest income earning households usually have access to nonfarm sources of income and some are also part-time livestock traders.

Levels of income derived from animal sales may have been exaggerated during the survey year (1987-1988), because of the severe drought conditions. During periods of hardship, herder need 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 nine times the average 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. The pattern of livestock sales witnessed in 1987-88, however, is 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 adverse 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 tendency of households to consume what is produced. While it is unclear how much herder income is derived from milk sales in nondrought years, the level of sales are likely to be higher than in 1987-1988.

Animal production is considerably more commercialized than milk production. During the twelve-month period of 1987-1988, herder households sold

approximately 12.4 cattle and 1.86 camels and consumed 2 cattle and .25 camels. Market sales of cattle and camels account for approximately 80 percent of the total number of animals culled from the herd during the year. In contrast, less than 20 percent of milk produced from herds is sold at markets; the bulk of it is consumed by household members. In nomadic areas farther away from the markets of Kismayo and Jamaame, the proportion of milk sales is considerably less. Few herders outside a 100-kilometer radius of Kismayo town sell milk. Since milk products perish quickly, herders must have good access to town markets, where most of the demand exists.

TABLE 8.2: COMPOSITION OF GROSS ANNUAL INCOME AMONG HERDER HOUSEHOLDS

Source	Amount (SoSh)		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	
Total:	197250		100.0	

Cash incomes among herders in the region show considerable variation. The range in incomes varies, 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 ($975) per annum, 35 percent of households have annual gross cash incomes of less than SoSh 80,000 ($400). By contrast, 6 percent of households earn more than SoSh 400,000 ($2,000) per year.

4. Nonpastoral Activities

Many herder households in the Kismayo Region practice some form of agriculture in years of adequate rainfall. Fifty-five percent of the herder sample practice dryland cultivation on an average farm size of 2.17 hectares. No herders in the study region have access to irrigated land, but those of Afmadow do cultivate recession lands near Deshek Waamo. There is a slightly greater tendency for herders in Kismayo District to farm (67.4 percent), than there is among pastoralists in Afmadow District (40.5 percent). No herder had a harvest during the long rains and only two percent of herders had a harvest in the short rains of 1987, usually sesame. 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.

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 members 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, most commonly town houses and retail stores. Table 8.3 correlates types of nonfarm investments and/or activities by different income categories. 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. 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. Investment activities are discussed further in Chapter XI.

TABLE 8.3: TYPE OF NONFARM INVESTMENT/ACTIVITY BY INCOME CATEGORY

Gross Annual Income	Retail Store	Urban House	Other[a]	Wage Labor
Low 0 - 80,000	1	3	1	4
Middle 80,000 - 200,000	1	1	2	3
High 200,000 +	9	7	1	1

(a) Includes bank accounts and other miscellaneous investments.

C. CATTLE INPUTS

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 sheep and goats. It is carried out by independent families that 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.

Chapter IV outlined the major seasonal movements of cattle herds in the region. The 1987 season was unusual in that herders moved their cattle out of the Kismayo Region to grazing areas in the Lower Shabelle Region. In most years, herders of Kismayo and Afmadow districts migrate northwards toward Kenya and the Jiira plains, retreating to the Deshek Waamo, the coast, and the Jubba riverine area during the long dry season. Access to riverine areas is increasingly problematic in the Lower Jubba Region due to the proliferation of large-scale irrigation projects and the recent expansion of irrigated banana plantations.

The costs of inputs per herder household are shown in Table 8.4. These include only costs incurred in 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 declines.

It is difficult to break down the costs of inputs by animal type in the table, since the major inputs are used both for cattle and camels. 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 break down the cost of labor by animal type.

TABLE 8.4: 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[a]	2264	1348	21672
Total:	3627	3634	43566

([a]) Includes purchases of all livestock types.

1. 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 SoSh 381 ($2.00) per month on hired labor, including the cash equivalency of payments in animals, which is the usual form of payment. More than 60 percent of households that hire herders pay them in payments of cattle. The typical payment is a two- to three-year-old bull per herder per six-month period. In terms of the cash equivalency of the transaction, this converts to a wage of SoSh 1167 ($5.80) per month. Hired labor is obtained predominantly from the pastoral areas.

2. Fodder

Fodder for cattle production is predominantly provided by grazing natural range. In only six percent of households was fodder purchased during the year, in the long, dry season period. Fodder purchases are limited to herders of Kismayo 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.

3. Water

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

The majority of households (59 percent) purchase water for their cattle during dry season months. 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. As was discussed in Chapter II, the Kismayo Region contains several government boreholes, that are located in urban centers (e.g., Afmadow) or in rural settlements, where the 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 three 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 8.4).

Thirty-two percent of herders in the region own a water point. Among those who do, 68 percent have a surface pond or war, while 29 percent own a well. Approximately half of the surface dams in the areas were built during

1981-1987, when the Trans-Jubba Project operated a construction unit for water development. The remaining approximately 50 percent were hand dug, which can take several years to complete. The Trans-Jubba Project charged herders up to SoSh 100,000 ($500) to construct a surface dam of approximately 30 x 30 meters. They used bulldozers and other earth-moving machines, which took about two to three days to complete construction. Under protests from local herders and government, concerned by the increased concentration of water points in the area, the project halted operations in 1987 (see the discussion on water in Chapter IV). Due to lack of data, Table 8.4 does not estimate the costs of water from privately owned sources, unless related transactions took place during the year.

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 constructs the wells can claim ownership as long as s/he is using it. These wells often are very shallow (three to four meters) and produce water of dubious quality. In the study region, the majority of such wells are located near the coast or along the fringes of Deshek Waamo or seasonal rivers.

The official price at government boreholes is 60 cents per cow, though actual costs among our sample of herders was SoSh 1.1 per head. 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 SoSh 6000 ($30) per long dry season (approximately three months) to water a combined herd of cattle and camels.

In sum, the herders in this region depend mostly on government boreholes as a source of water in the dry season, and they spend considerable amounts 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. Fuel and maintenance services for boreholes are obtained only in the larger urban centers of Kismayo and Jilib or, in some cases, Mogadishu.

4. Veterinary Inputs

Chapter IV describes the serious animal disease problems that exist in the Kismayo Region. In particular, the presence of trypanosomiasis accounts for the large amount of herder expenditures (SoSh 639 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) purchase at least some veterinary inputs. Herders usually administer the drugs themselves, which come mostly 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, and 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, they are all imported from overseas or elsewhere in East Africa. Each of the four districts in the Lower Jubba Region has a district veterinary officer responsible for district drug distribution.

While the private sale of veterinary drugs is illegal, a considerable amount of it takes place in the region. The topic is controversial, and data on the subject are difficult to collect. A large amount of veterinary drugs come into the region unofficially from Kenya. These are then sold to herders by traders and shop owners. Veterinary drugs from other sources also find their way into private trading channels. Among 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. The location for purchases of veterinary supplies varies according to seasonal herd movements, with the exception of syringes, which are almost always purchased in Kismayo town (more than 80 percent of total purchases) rather than in smaller towns or settlements. Table 8.5 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 Deshek Waamo area and around the major boreholes. At this time purchases are made at smaller seasonal watering places, such as Boka, Bibi, and Mido (see Table 8.5). Kismayo town accounts only for 30 percent of veterinary purchases in dry season months, compared with 76 percent in the wet season. The appearance of a Kenyan town, Halugo, in Table 8.5 indicates that certain herders are purchasing veterinary supplies directly from Kenya.

5. 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 ensure reproduction of the herd, to compensate for animals sold, and to maintain or fatten cattle for future sale. Even at market towns, a certain proportion of cattle is purchased directly by herders, rather than by 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. The severe conditions resulted in decapitalization of the herd, especially

of females, rather than selective buying to upgrade the herd. Less than ten percent of households purchased livestock, including cattle, during that year. Purchases of cattle represented net increases to the total herd of less than two 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.

TABLE 8.5: 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
Total:	100.00	100.00

Herders frequently acquire cattle for production or 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 borrower is responsible for care of the animal and can use the milk or, if it is a male, utilize the animal for breeding purposes. More than 26 percent of herders in the region have either loaned or borrowed cattle from another household. The average loan is seven cattle. It should be noted that nonmarket transactions of cattle are an important linkage that binds together urban and pastoral households.

D. CATTLE MARKETS

Cattle marketing in the Kismayo Region involves four dominant channels. The different markets vary in importance by season and by location within the region.

1. Market Channels

a. 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, Garissa in 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 8.6). 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. 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 sanctioned by the government. 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; it is not restricted to males (four to seven years old) like the overseas export trade. The Kenya market, however, does reveal seasonal characteristics, with almost no sales occurring 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, Garissa, passing through areas where water and grazing are very sparse in the dry season.

Table 8.6: Destination of Cattle Sold in Kismayo Region[a]

Destination	No. of Cattle	Percent
Afmadow	94	11.30
Bilis Qooqani	13	1.56
Export[b]	30	3.61
Garissa	193	23.20
Kawaan	20	2.40
Kismayo Town	186	22.36
Mogadishu	129	15.50
Other	167	20.07
Total:	832	100

(a) Based on analysis of market data collected under the USAID/ Livestock Marketing and Health Project.
(b) Includes cattle destined for export holding grounds such as Laheley.

The Kenya trade involves at least two levels of transactions. There is the initial sale by the herder to a middleman and the second stage when the middleman resells it to a larger trader. This trader either takes the animal directly to the Garissa 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 SoSh 8.5 to the Kenyan shilling, while in February 1988 it was SoSh 11. The profits to be made on the devaluation alone are considerable. For example, a Somali cow worth 2,750 Kenya shillings (SoSh 23,375) in March 1987, returned SoSh 6,875 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, 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 Garissa market is only 50 kilometers farther from parts of Afmadow District than are most regional market towns and much closer than the national market in Mogadishu. In Badhaadhe District, 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.

b. 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 are destined for the Kismayo market, which is mainly oriented toward local consumption in the town. An estimated 53 percent of cattle sold at the Kismayo market are transacted directly to butcheries for slaughter, while 15 to 20 percent of purchases are made by herders and 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 8.7), mainly old cows and bulls. Among the different markets in the study region, Kismayo town reveals the most constant level of monthly sales throughout the year. Being mainly oriented to local consumption, it is not subject to the seasonal swings in demand that the export markets experience.

A relatively large proportion of transactions occurring at the Afmadow, Bilis Qooqani, 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 8.6, 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, for export, and for acquiring herd capital to replenish stocks.

TABLE 8.7: AVERAGE CATTLE PRICES IN MOGADISHU AND LOWER JUBBA MARKETS, 1987-1988[a]

	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
Average:	14502	11338	9402	9978	9636

(a) Based on analysis of market data collected under the USAID/ Livestock Marketing and Health Project.

c. Mogadishu Market.

The Mogadishu market is the third most important outlet for Kismayo cattle, accounting for an estimated 16 percent of cattle sold in the study

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 8.7. 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 revealed that 53 percent had sold cattle in Mogadishu during the past 12 months.

The Mogadishu trade mainly involves the regional market towns of Afmadow and Kismayo. To a lesser extent Bilis Qooqani 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, where he or an associate sells it at one of the city markets. Cattle are rarely trucked the 600 kilometers to Mogadishu; more often they are trekked on foot.

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 in contrast to the Kenya trade, few young cattle are 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 there 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.

d. 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 it has absorbed considerably fewer animals than the other three markets. When it is operating and overseas demand is good, it injects considerable revenue into the regional economy (see Chapter X). 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 the study year. The last quarter of 1987 had no exports of cattle or any other animals, although the first quarter of 1988 showed promise, with exports reaching 3,100 cattle, but the pace of exports was still well below previous years (see Chapter IV, Table 1). It should be noted that many purchases of export cattle are not made in market towns and, therefore, this market is under represented in Table 8.7.

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 1,550 cattle remained to be exported under the Egyptian trade pact.

The trade to the YAR 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 the YAR are not governed by a bilateral agreement, and it is strictly up to the export trader to make his own trade arrangements. There is only one company, the Teysiir Company, that exports cattle to the 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 ones 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, providing minimal services to its members, who are required to pay initial fees. 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 the 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 letters of credit with the bank and shipping services, which are paid by the trader, who then exports the cattle under the company's name.

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

A second important distinction from other markets in the region is the selectivity of the overseas export market, which buys only male cattle between the ages of 4 to 7 years. Females may not be exported under Somali law because of the effect on herd growth. Furthermore, only the largest male animals are selected, those that exceed 300 kilograms liveweight, which is at least 20 percent larger than the average for cattle in the region. In short, unlike the Kenya trade, the overseas export market is oriented strictly towards the highest quality beef animals.

A third major difference in the overseas trade is the lack of reliance on local market channels for procurement of cattle. Virtually no purchases of export cattle are made at the Kismayo town market and only a small percentage at other market towns. Instead, export traders have their own chain of middlemen who procure the cattle for them, often buying directly from smaller middlemen. A large exporter 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 exporter 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 is the need for a holding stage for export animals in the market chain. Approximately eight weeks prior to the expected date of shipment, the exporter usually places the cattle in the holding ground at Haglibaar, 65 kilometers northwest of Kismayo. This holding ground is solely for export animals; they are able to put on weight faster there than if grazed on open pastures. The trader is charged a fee of SoSh 1.50 per day for watering and grazing costs.

Three to four weeks prior to the export date the cattle are moved to the holding ground and quarantine facilities at Lahaley, about 15 kilometers outside of Kismayo. There they are vaccinated, dipped, 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. 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 loading on the ship. The cattle are fodder-fed and watered, the costs of which are covered by the exporter. 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 high additional costs, since daily fodder expenses exceed SoSh 200 ($1.00) per animal.

The overseas export trade is also distinguished from other markets by the high costs and capital requirements at the different stages in the export chain. Only large-scale traders can participate in the overseas market, and most of them own some facilities, such as trucks and water tanks. As is discussed later in this chapter, the costs of market transactions exceed several thousand shillings per animal, which is well in excess of the transaction costs of other market channels.

2. Price Relationships in the Region

The significance of the Kenya market in the region affects the spatial dimension of cattle prices. Table 8.7 shows that in the study region market towns located near Kenya, such as Libooye and Afmadow, have higher prices

than Kismayo town (also see Table 8.8). When climatic conditions are favorable and the Kenya market is open, cattle prices at Libooye on the border tend to be higher than elsewhere in the region. For example, from 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 in Kismayo. Because of its orientation toward low-value, local consumption markets, Kismayo has the lowest average prices in the region. Prices in Afmadow generally stay higher, because it is a major center in the high-value markets, including Mogadishu, Kenya, and overseas.

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 animals in poor condition. These factors, coupled with the dry-season slowdown in the export trade, both to Kenya and overseas, 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 8.3). The same general pattern is displayed in the three other major market centers, although it is less pronounced in Kismayo due to the constant demand for animals for local consumption. These seasonal fluctuations in price increase the economic vulnerability of herders, especially the poorer ones, but they also allow for considerable profit taking by those traders who are able to make speculative purchases in the dry season.

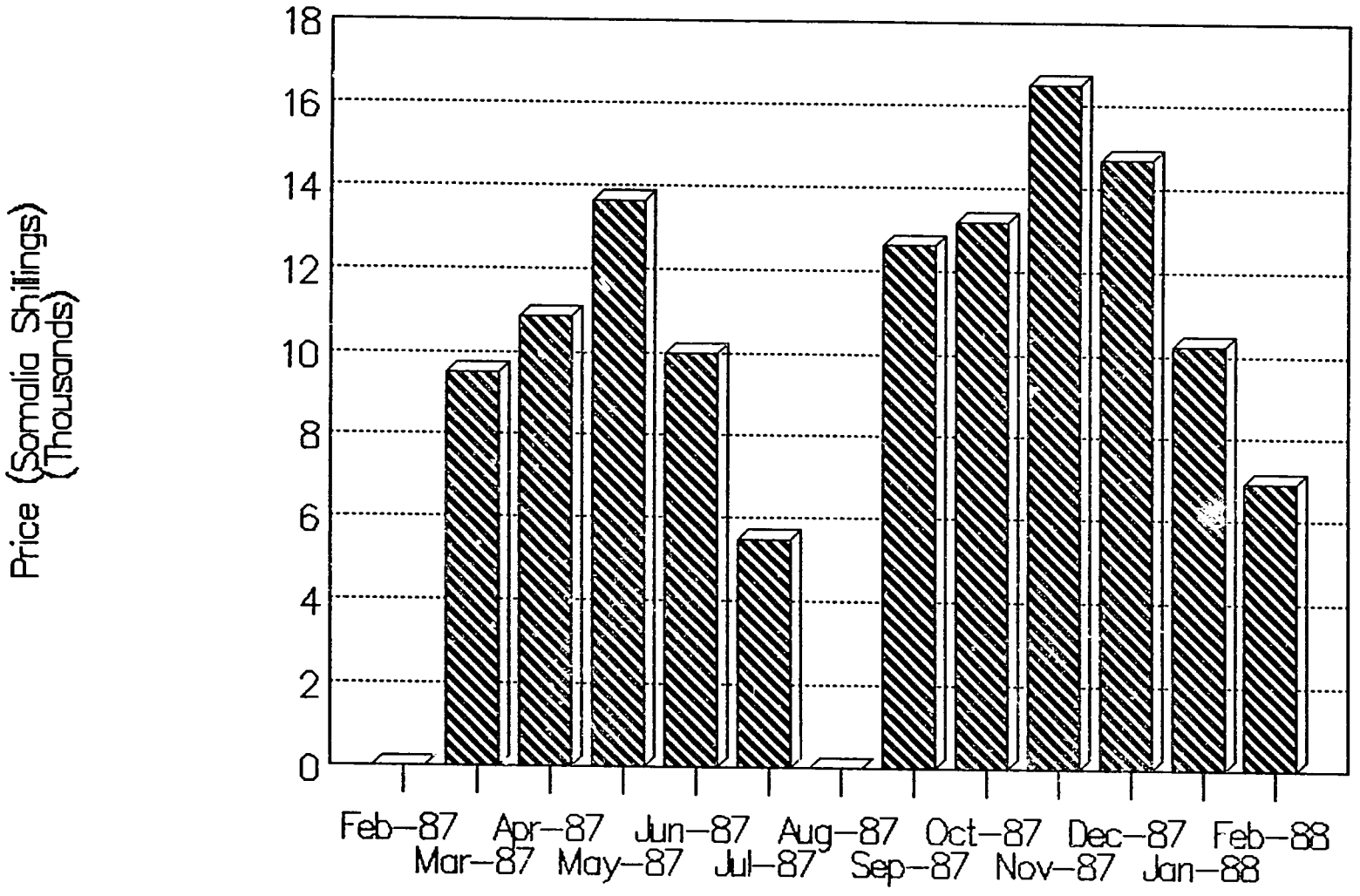
Cattle prices vary by animal age and sex as well as by final destination. Average producer prices are lowest, at SoSh 9639 ($48), for animals destined for the local market, and rise to SoSh 10,620 ($53) for the Mogadishu market, and SoSh 16,000 ($80) for the Kenya market. Highest producer prices are for overseas export quality bulls that receive SoSh 19,000 ($95).

Prices shown in Table 8.7 for the regional markets are not accurate indicators of producer prices. Price data collected at the household-level reveal average prices that are approximately 15 percent below market-town prices. As the herder surveys show, this is because the vast majority of initial sales between herder and middleman take place in the bush rather than in market towns. Transactions at market towns usually represent a second transaction in the chain, that between middleman and larger trader. At this level, many of the sales may be by part-time middlemen-cum-herders, who are more involved in livestock production than trading.

Prices were generally low throughout 1987 and early 1988 due to drought conditions in the region and the lack of overseas sales. Although the overseas market is very selective and less important in terms of volume than the Kenya trade, it can influence producer prices favorably when the market is active. However, average prices of cattle in February 1988 were actually lower than prices in February 1987, despite a 29 percent devaluation of the Somali shilling and an annual inflation rate of around 20 percent. In short, herders were in considerably worse economic shape in 1988 than in 1987, which also was not a particularly good year.

Figure 8.3 Cattle Prices By Month

Afmadow Market



3. 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 about which to generalize because of the variation in scale and roles among different cattle merchants. As indicated earlier, export traders are usually large-scale, while other traders may sell no more than 20 cattle annually. Certain traders, especially in the major market centers, serve only as brokers who match buyers with sellers and charge a small margin for their service, usually 2.5 percent of the sale price. As with most commodity market systems, the level of competition among traders diminishes farther up in the market chain: in the Kismayo Region two traders accounted for approximately 50 percent of cattle exports in 1987. Interviews with traders showed that 30 percent buy and sell both cattle and camels, but 39 percent trade only in cattle, and 13 percent only in camels.

a. 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 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 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 but charge 2.5 percent of the sale price to the buyer for finding a seller. While the charge seems high 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 in Kismayo and Afmadow.

b. Middlemen and Local Traders

The scales of middlemen enterprises vary considerably, depending on whether or not they are agents of large export traders. Approximately 60 percent of middlemen say 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 relationships enduring several years. The larger middlemen buy from smaller ones 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, those who handle more than 250 cattle per year, 83 percent are involved in either the overseas or the Kenya export trade.

c. Export Traders

As indicated above, the overseas export traders are frequently not from the Kismayo Region and procure cattle outside 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 Badhaadhe. 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, transaction costs for the Kenya trade are greater than for domestic trade but considerably below those for the overseas market. In short, the Kenya export merchant is not likely to be any different than other local traders in the region, and part of his business is likely to be for regional and national markets. By contrast, the overseas exporter differs considerably from other traders both in terms of the scale of enterprise and the specialization in one market.

The time limitations on letters of credit often make it difficult, costly, or risky for overseas exporters to procure large numbers of animals ahead of time. While they buy cattle throughout the year, they restrict purchases of large numbers until receiving a definite market agreement specifying the volume and date of export. Since letters of credit from the Somali Commercial and Savings Bank are granted for only two to three months, the exporter cannot pursue much speculative buying prior to export. When the merchant receives information on a definite date and an agreed number of cattle, large-scale buying begins. Individual traders frequently have allotments in excess of 1,000 cattle that have to be met within four to six weeks. Despite the weakness of external markets, the trader frequently cannot assemble his allotment within the specified time, because cattle may have migrated away from the main centers or, as happened in 1987, may be in poor condition. The exporter, therefore, does not have sufficient time to procure the required cattle, and in recent years they have had to depend on the Lower Shabelle to meet quota levels.

4. Costs of Trading Operations

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 herders. While exact figures are not obtainable, a proportion of cattle herds kept on the range belong to traders who have hired local herders to manage them. On average, trader herds in the region number 45 head of cattle, and during drought years such as 1987, the trader incurs high costs for the inputs needed to maintain animal quality and weight.

Table 8.8 indicates the costs incurred by traders for one head of cattle, and distinguishes costs according to the four different markets discussed above. Traders rely almost solely on hired labor to herd their animals, which is quite different from the pattern among herders (see earlier discussion in Section A). Among middlemen, 94 percent hire an

average of three people during the year, with 24 percent hiring laborers on a permanent basis. Overseas export traders hire an average of 19 people, and 75 percent employ permanent workers.

Traders either rely on their own water sources or purchase water from government boreholes. They do not usually use communal wells owned by groups of local herders. Among the sample of traders, several owned a water source, and one person had his own water truck.

The district councils charge a five percent tax on cattle sold at the market, an expense that is incurred by the seller. Since the same animal is often transacted at least twice before export or final sale, middlemen also incur taxes. The middlemen prefer to transact sales away from markets in order to avoid these 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.

Table 8.8 demonstrates the range of costs that are incurred by the overseas export traders. In virtually every category - water, veterinary inputs, and labor - 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 other markets. The costs for the export trader are based on holding the animal for three months prior to sale, but in many cases longer periods are required. For example, in 1987 most traders kept cattle for at least five months owing to the lack of markets in the last quarter of the year. One camel exporter in Kismayo had 200 animals awaiting export for more than seven months. Trader costs for the Mogadishu and Kismayo market are based on a holding period of one month, and the costs for the Kenya trade on two months. Obviously, costs of all trading operations, especially for overseas exporters, increase considerably if animals are held for longer periods 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, cattle are trucked to the Mogadishu market, at an average cost of SoSh 850 ($4.25) per animal. In addition, exporters moved cattle by truck in the drought of 1987 to avoid large losses. However, these are exceptions to the norm, which is trekking by foot. Traders usually hire three to four herders per 100 cattle to trek them, with additional herders being employed in dry months when grazing and water are scarce.

Similar to any livestock enterprise, risks of animal loss or death are relatively high. While much lower than the risks for the herder (see Table 8.7), there is a possibility 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 seven percent for the herder, but around two to three percent for the trader. The Kenya trade is considerably riskier than other markets, because of widespread cattle theft and banditry in the northern part of the country. The Somali-Kenya trade must traverse this area en route to the Garissa market.

TABLE 8.8: COSTS INCURRED BY LIVESTOCK TRADERS (SoSh 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	

5. Trader Market Margins

Trader margins increase as the animals are transacted through the system. Smaller middlemen, who buy directly from the herder, accumulate net

returns usually less than five percent of final sale price; overseas exporters earn net revenues equivalent to 18 percent of the final price. Trader margins are shown in Table 8.9, broken down according to different transaction points and net returns to traders. As indicated above, trader costs (and returns) are calculated on the assumption that animals are held for two to three months prior to sale; in fact, this holding period can vary dramatically and affect the rate of returns to traders.

TABLE 8.9: TRADER MARGINS AND NET RETURNS

	Overseas[a] 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 Costs	(2225)	(1985)	(1324)	
Net Return	1775	3015	1085	
As Percent of Selling Price:	7.72	14.36	8.33	

(a) Based on Stockton report (1987:89) and field data collected under the SARSA study.

In Table 8.9 the Kenyan and overseas prices are based on slightly different criteria. The final price used to calculate the markups in the Kenya trade are average prices at Garissa, as indicated by Somali traders. In the overseas case, the price used to calculate margins was the FOB price in Kismayo harbor, rather than the CIF wholesale price in Yemen or Egypt. The sale prices for the Kenya, as well as the Mogadishu, trade were traced to the importing areas because in these cases Kismayo traders participate and share in revenue at this level. 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, although market margins for all international trade are dependent on exchange rates. The figures for overseas trade in Table 8.9 are based on a conservative rate of SoSh 120 to the US dollar, which is 20 percent above the official rate in February 1988 but only half the free market rate. The conservative rate seems appropriate given the stricter government enforcement of exchange rate policies in 1987 and 1988, which require the trader to remit half his sales revenue at a rate of SoSh 99 to the US dollar. As indicated earlier, the Kenya exchange rate is based on a figure of SoSh 10 to one Kenya shilling, 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. The final price used for these calculations is based on sale prices in Kismayo and Afmadow town markets. The final retail price from butchers for beef in Kismayo is estimated to be about 25 percent above these prices, but it has not been used for the calculations in Table 8.9. Trader costs for the regional domestic market are well below those for 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 and smaller traders.

The margins of middlemen vary according to the different markets, but they tend to be highest for the Kenya trade. Middlemen, acting between a Kenya-based trader and the producer, can earn net revenues equivalent to ten percent of the sale price in Kenya. Because the Kenya trade is so lucrative for local traders, they are directing most of their cattle there rather than to other destinations. This phenomenon, coupled with the general decline in overseas markets, have resulted in a precipitous decline in the profits of export traders in recent years. If the Kenya market remains stable, overseas exporters will 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 FOB price of US$ 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 chapter, the export trade has shown the greatest decline, and the Kenya and Mogadishu markets 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.

E. CONCLUSIONS

This chapter has shown that herder households raise not only cattle, but other animals as well, and in some cases grow 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 to local urban centers is the sale of live animals, especially to markets outside the region.

Production and marketing of cattle affects urban and rural areas in different ways. Local towns, with the exception of Kismayo, consume few cattle. 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: fodder, which is obtained from natural range, and labor, which is mainly supplied by herder households. However, most of the purchased inputs to cattle production originate outside the region or involve equipment that is imported from elsewhere. These are acquired through the urban network of the Kismayo Region.

Towns in the region assume considerable importance in the distribution of veterinary drugs and equipment, and some significance in the supply of water. Veterinary supplies are the major urban-based inputs that are provided to herders and are purchased at the larger towns, such as Kismayo, as well as at smaller centers such as Afmadow. Small settlements such as Bibi and Cabdulle Biroole, also known as Yaq Bisharo, are also watering points for herders, providing a critical input for cattle production. Repair and maintenance services for these boreholes are provided by the larger towns. Herder household visits to urban centers, to purchase veterinary drugs or water, varies during the year according to the movement of herds.

The urban system of the study region plays a marginal role in providing wage labor opportunities for herder households. But in addition to the purposes mentioned, local urban centers are visted frequently by herder household members in connection with the common practice of borrowing livestock, purchasing consumer goods and services, and conducting foreign exchange transactions. The extensive herder-urban interaction creates opportunities for significant proportions of herder earnings to remain in the region and be multiplied as income to urban households.

CHAPTER IX

THE MILK COMMODITY SYSTEM

A. INTRODUCTION

This chapter discusses the dairy commodity system in the Kismayo Region. The focus is primarily on exchange relations associated with milk marketing, rather than on production inputs, because these are the same for milk as for livestock production in general and have already been discussed in the previous chapter. Market channels for dairy products are less complex than for cattle, since there is no exports out of the region.

The data included in this chapter are based on herder household surveys, which are described in Chapter VIII. The Afmadow herders sell very little milk and, therefore, the analysis here is restricted to Kismayo herders. In addition, market data were collected from interviews with 38 nomad milk traders who are unsettled herders, interviews with 34 urban-based milk traders, and from records of dairy sales at three urban markets, one in Jamaame town and two in Kismayo town. Sixteen observations of the urban markets were made during the period March 1987 to February 1988, with data collection concentrated in the months of July, November-December, and February. These months were picked as representative of three of the four climatic seasons in the region. In addition, less systematic observations of sales and prices were made at smaller centers, such as Afmadow town and Cabdulle Biroole, between July 1987 and February 1988. Very little ghee (clarified butter) was sold during these months due to the scarcity of cow milk, so it receives little attention here.

B. OVERVIEW OF THE DAIRY PRODUCTION AND MARKETING SYSTEM

Those herders who supply milk on a regular basis to the urban markets usually reside for most of the year within a 50-kilometer radius of the town. They maintain camels in the herd because they are much more reliable producers of milk than other animals. In comparison to cattle, camels are less affected by seasonal changes in climate and vegetation and, therefore, provide milk on a more regular basis. In the survey period no herders in our sample sold cow milk, though 46 percent sold camel milk during the year. However, herders mainly produce milk for their own consumption and only incidentally for sale.

1. Peri-Urban Milk Producers

In the large urban centers, such as Kismayo and Jamaame, a small number of households maintain herds on the outskirts of town to supply milk to urban markets. They usually keep small herds of 10 to 15 cattle and make purchases of fodder and feed to supplement the scarce natural fodder available in the urban centers. The producers, who are usually women, take their dairy products directly to the urban markets to sell to consumers. Peri-urban producers are not found outside the three large towns of the region.

Even in these towns they account for less than 15 percent of the total amount of dairy production available for sale.

C. MARKETING

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

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

Slightly sour camel milk is the product that is available with the most consistency throughout the year in urban markets, although urban-based traders during the long dry season may use trucks to go as far as Badhaadhe District to buy it. It can be sold up to four days after milking. The second most common product available is fresh camel milk. Fresh and sour cow milk are available in Kismayo market but are scarce by the end of the long dry season around February-March.

1. Types of Milk Traders

Three types of milk traders are associated with the rural-urban milk market system in the region: urban-based traders, unsettled herders, and peri-urban producers. Each of them has a certain product niche in the market system. Milk-trading activities at all levels are gender-specific; more than 95 percent of sampled traders were female.

a. Urban-Based Traders (Abakaar)

Urban-based milk traders, known as abakaar, are active year-round and are found only in the large urban centers. On average there are five urban-

based traders daily at the Jamaame market, 12 at the Suuq Yare market in Kismayo town, and 26 at the Via Afmadow market in Kismayo town. Because they trade milk all year, they only sell slightly sour camel milk. The abakaar sells no other dairy products, but in a few cases may trade in grain or a few other agricultural products. Among the different kinds of milk traders, the abakaar sells the largest volume of milk per week, an average of 179 liters. Frequently rural herder and peri-urban producers or traders outnumber the abakaars at the market, but on a per-trader basis they account for a considerably lower volume of milk sales.

Average weekly net incomes from milk sales is SoSh 672 ($3.36) per abakaar, ranging from a low of SoSh 140 ($0.70) to a high of SoSh 2260 ($11.30), which would not be considered a particularly high income among herders. Highest net incomes are recorded among abakaars at the largest urban market, Via Afmadow, while lowest incomes are found among abakaars at Jamaame market. A relatively large proportion of abakaar traders are female heads of households, either divorced or widowed women, which means that milk sales comprise a large portion of their household income. Among the sample of abakaar, 41 percent are female heads of households, while the remainder reside in domestic units headed by a male. This percentage greatly exceeds the proportion of female-headed households in the general population.

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

b. Traders from Herder Households

Most milk traders at urban markets are women from herder households, and they are the major suppliers of fresh camel and cow milk. Table 9.1 shows how the number of traders can change during the year, particularly from herder households, whose presence at specific markets depends on the seasonal movements of herds. In Jamaame, for instance, the number of such milk sellers dropped dramatically in July 1987 from 100 to 25 in one week, as herds migrating from Afmadow en route to the Lower Shabelle moved on to the next place. Less drastic changes took place in the other two markets, though across all markets the number of traders from herder households generally declined as the dry season progressed.

TABLE 9.1: AVERAGE NUMBER OF MILK TRADERS IN URBAN MARKETS, KISMAYO REGION

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

H = Herder
A = Abakaar
P-U = Peri-urban

The number of herder traders in the market is a good indication of the amount of fresh cow and camel milk available. Table 9.2 differentiates herder traders according to whether they sell camel or cow milk and highlights the significant drop in the number selling cow milk by February 1988. In the largest market, Via Afmadow, the number selling cow milk was only five during February 1988, as compared to more than 50 during July 1987. The number of herder women selling camel milk also varies, but not as much as those selling cow milk.

TABLE 9.2: AVERAGE NUMBER OF HERDER TRADERS SELLING CATTLE AND CAMEL MILK, KISMAYO REGION

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

In urban areas herders sell milk directly to the consumer and obtain it from the family herd. In contrast to the abakaar, herder traders do not have to purchase milk from a supplier, allowing them to avoid middlemen transaction costs (discussed later in the chapter) and earn higher incomes. Average weekly incomes among herder milk traders is SoSh 1963 ($9.80), which is more than double reported incomes among abakaar traders. However, the income of herder traders is highly irregular because most sell milk only two to three months of the year. If the intermittent nature of their market activities is considered in calculating weekly incomes on an annual basis, their weekly income is approximately SoSh 500 ($2.50) per week. In addition, unlike the income figures of abakaar traders, this amount is not net of production costs, which have not been calculated for milk production but are estimated to be about 40 percent of the sale price.

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

c. Peri-Urban Producer-Trader

This category of urban milk trader has been discussed above and will only be briefly summarized here. Peri-urban milk producer-traders are not found in large numbers, except in Kismayo town where on an average market day 29 can be found at Via Afmadow and Suuq Yare markets. They only reside within the three largest urban centers of the region, Kismayo, Jamaame, and Jilib, and like herder producer-traders, they sell their own produce, but unlike them sell only cow milk. Because the production and sale of cattle milk is so seasonal among herders, the importance of peri-urban producers as suppliers of cattle milk to towns increases during the dry months. While their share of total cow milk sales in urban markets increased from 15 to 37 percent during the period July 1987 to February 1988, the herder trader share fell from 85 to 63 percent during the same period. The decline in the herder share correlates with the onset of the long dry season, when herders move their cattle to distant grazing areas.

Income data are not available for peri-urban producers, since they are less significant in the milk trade than either the herder or abakaar. Their population in the region is very small, especially when compared to other livestock producers such as herders. They attend milk markets on a more regular basis than herders but less consistently than the abakaar. Table 9.1 shows that with few exceptions the daily number of peri-urban milk traders at the market tends to remain within the range of 13 to 17 for Jamaame, 10 to 20 for Suuq Yare in Kismayo, and 14 to 25 for Via Afmadow in Kismayo. Volume of sales is estimated at 5.5 liters per day per peri-urban trader, which is considerably below average daily sales of an abakaar.

2. Seasonal Variation in Sales and Price

Any estimate of the volume of total milk sales in urban markets should be approached with caution. Table 9.3 provides the best estimates of total daily milk sales in Kismayo and Jamaame markets, without distinguishing fresh and sour products. The data underline the importance of camel milk, which account for 75 percent of total daily milk sales. The table also shows that in spite of fluctuations in the supply of milk, the total value of daily milk sales tends to be relatively constant, ranging from SoSh 231,082 ($1,155) to SoSh 263,266 ($1,316).

TABLE 9.3: ESTIMATED DAILY MILK SALES AT URBAN MARKETS[a]

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

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

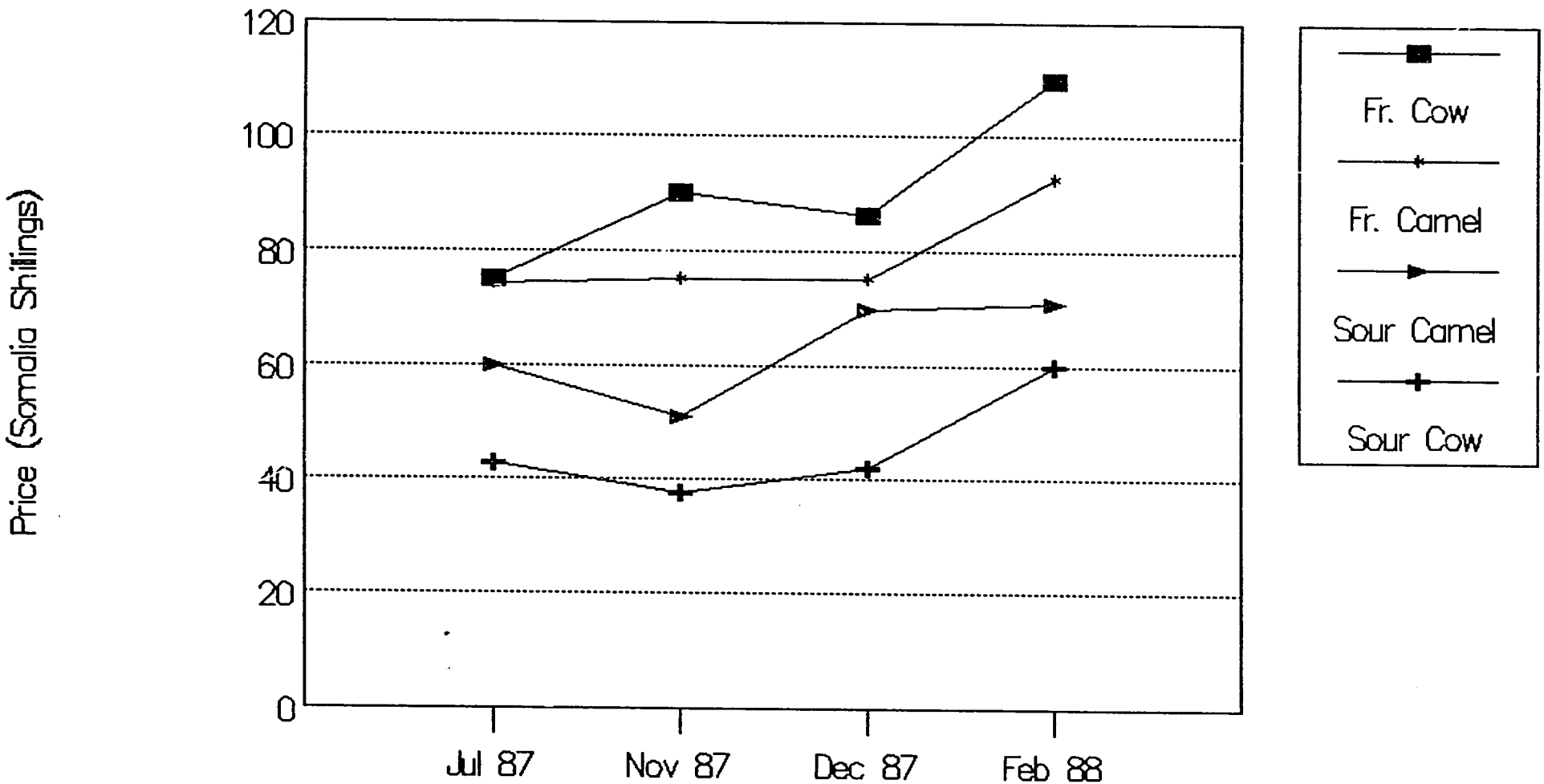
(b) Based on actual measurements, the average size of traditional milk containers at market is 5.38 liters. This figure is used to estimate volume of sales among herder and peri-urban traders.

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

Figure 9.1 shows the variation in prices for different milk products at the three urban markets that were monitored. While price increases occur for all products during the survey period, the most dramatic rises are for cow products. For example, fresh cow milk prices rose 47 percent while sour cow milk increased 40 percent, with much of the increase occurring in the November 1987 to February 1988 period. Camel product prices, in turn, increased only 25 percent for fresh milk and 18 percent for slightly sour milk.

The data suggest several interpretations. First, there seems to be considerable substitutability for products among consumers that tends to keep price increases within a certain range. While fresh cow milk prices

Figure 9.1 Average Retail Price for Milk Products, Kismayo Region



did rise considerably during the year, the increases are far below the proportionate decreases in the supply of the product. In the largest market, Via Afmadow, the availability of fresh cow milk declined from an estimated 393 liters per day in December 1987 to 129 liters in late February 1988, but despite this 67 percent decline in supply, the price of fresh cow milk rose only 28 percent. During the same period, supplies of fresh and slightly sour camel milk increased 33 percent, allowing consumers to buy it in place of cow milk. In addition, considerable amounts of powder milk also became available during this period, which is likely to have slowed the price rises in fresh milk.

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

TABLE 9.4: MILK PRICES IN SMALL URBAN SETTLEMENTS
(SoSh per Liter)

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

The price data also show that abakaar traders and peri-urban producers/traders play a critical role in maintaining reasonable prices and supplies of dairy products in urban markets. In the dry season, the abakaar seeks out supplies of sour camel milk, while the peri-urban producer/trader is an important supplier of cow milk. In smaller market towns, where abakaar and peri-urban traders are not found, price fluctuations tend to be much greater and supplies of dairy products less reliable, as shown by market data from Afmadow town and Cabdulle Biroole. As Table 9.4 reveals, fresh cow milk was frequently not available in either Cabdulle Biroole or Afmadow, both

settlements located in major pastoral production zones. In addition, the price for fresh cow milk, when it was available, was often well above prices in larger towns, such as Kismayo and Jamaame, largely because these settlements rely almost entirely on nomad milk traders.

3. Trader Costs and Returns

The abakaar is the only milk trader in urban markets that usually procures dairy products from another party, rather than selling products from her own herd. Table 9.5 shows the costs and returns at different stages in the rural-urban milk marketing chain when both urban and rural-based abakaar traders are involved. The figures are based on the sale of sour camel milk in Kismayo market, using an average price for the year and transport costs based on the distance between Cabdulle Biroole and Kismayo.

The normal method of transporting milk to the Kismayo abakaar is via pickup trucks. Along the main Kismayo-Cabdulle Biroole-Buulo Xaaji road there are three trucks that operate on average five to six days per week. They are mainly utilized for transporting passengers, but they also move consumer products, including milk. The urban-based abakaar sends empty containers out with the pickup every afternoon or evening. At the other end, the trading partner picks up the empty container, fills it with milk, and delivers it back to the truck driver in the morning to transport to Kismayo. The average price from Kismayo to Cabdulle Biroole for an empty container is SoSh 1 per liter, and SoSh 4 per liter when full. The transport costs of the empty container are covered by the urban-based abakaar, while the costs of sending a full container are covered by the rural-based trader. When the two traders are in partnership, the costs are evenly shared between them.

The truck driver is the main link between the rural and urban-based milk trader, since they normally do not travel with their containers. Over time, trust is built up and the abakaar does not hesitate to send out her containers with the truck driver. The transporter is well compensated for his services, receiving eight percent of the final sale price in Kismayo, or more than 20 percent of the difference between producer and final sale prices, which represents the largest single cost in the milk marketing chain. This may partially explain why transporters have not entered the milk market themselves to serve as wholesalers. Interviews with different transporters indicated no desire to enter the market as wholesalers for the Kismayo market, although they would be in an ideal position to do so because of their role as intermediaries in the system.

The costs of herder milk traders are not included in Table 9.5, but they nonetheless provide an instructive comparison to the transport costs incurred by the abakaar. Approximately 40 percent of herder milk traders in the Kismayo-Jamaame area utilize motorized transport to move their milk (and themselves) to market, and most of these prefer to travel by lorry rather than pick-up truck, because in addition to bringing milk to the market, herder uses the opportunity to purchase consumer goods in town. When large numbers of herders and herds are nearby, approximately three lorries operate

TABLE 9.5: MILK TRADER COSTS AND RETURNS, KISMAYO TOWN SOUR CAMEL MILK (SoSh per Liter)

Item		Amount
Final Price	62.00	
Urban Based Abakaar Margin	12.00	
Tax/Fee		2.00
Transportation		1.00
Materials[a]		0.23
Loss (5%)		2.55
Subtotal Costs		5.78
Net Revenue		6.22
Rural Price	50.00	
Rural Based Abakaar Margin	12.00	
Tax[b]		1.00
Transportation		4.00
Materials[a]		0.23
Loss (5%)		1.90
Labor/Local Transport		1.85[c]
Subtotal Costs		8.63
Net Revenue		3.37
Producer Price	38.00	

(a) Based on purchase of two 30 liter plastic containers per year at a cost of 900 SoSh per container.
(b) Assumes that only 50 percent of transactions at this point were made at a settlement where taxes are collected.
(c) Represents labor costs to procure camel milk and transport to road where it could be picked up by vehicle.

out of Kismayo town on a daily basis up to a 30-kilometer radius, transporting herder traders to town so they can sell milk. Herder trader transport costs are some 40 percent higher than for the abakaar, mainly because she travels with the milk. Here, average transport costs are SoSh 7.23 per liter of milk, which in certain months exceeds 10 percent of final retail prices in Kismayo.

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

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

The urban-based abakaar earns a net income of SoSh 6.22 per liter of sour camel milk sold, which is 10 percent of the final sale price. The rural-based abakaar earns a net SoSh 3.37 per liter, which is approximately five percent of the final sale price, while the herder receives SoSh 38 per liter or 61 percent of the final retail price. Net incomes to all milk traders are relatively low, reflecting the high level of competition that exists. While returns on investment seem adequate for milk traders, they remain relatively small and generate minimal cash for further investment.

D. CONCLUSION

The dairy trade is oriented strictly toward regional markets. The three large towns of Kismayo, Jamaame, and Jilib, account for most purchases of milk in the region. Camel milk accounts for approximately 80 percent of milk sold and shows less instability in supply and price than cow milk. In spite of large volumes of dairy sales, the rural-urban milk market lacks bulking or wholesaling and is highly competitive. The largest towns in the region have specialized milk traders, or abakaar, and peri-urban producer/traders that fill important niches in the market that are not served by herder milk traders.

The rural-urban milk market demonstrates the important linkages that are maintained between regional towns and their rural hinterland. In contrast to the livestock trade, the smaller towns play only a minimal role in dairy trade and producers are almost completely dependent on large centers to market their produce. Such towns as Bilis Qooqani and Libooye provide

small markets for milk and are not transshipment points for the dairy trade. The perishability of dairy products greatly limits participation of remote settlements in the rural-urban trade. In addition to providing markets, the large towns supply important transport services to milk traders and producers.

The rural-urban milk trade allows little potential for capital accumulation among traders, most of whom are women. In aggregate, however, it generates considerable revenue and, unlike the cattle trade, most of this income remains to generate further income within the region. A comparison of the regional economic benefits of milk verses cattle trade is covered in Chapter X.

CHAPTER X

RURAL-URBAN EXCHANGE: PRODUCTION AND MARKETING

A. INTRODUCTION

This chapter analyzes rural-urban exchange by looking at the distribution of revenues generated by production and sale of key commodities in the study region. The analysis begins with a relevant price, which may be the final retail price, FOB, or at the region's border, and then revenues are apportioned between traders and producers. At a further level of elaboration, these revenues are broken down into costs and net revenue, and accounted for spatially to determine how they are distributed between areas within the region and outside it. Tables have been constructed for individual commodities, and summary tables compare distribution of revenues for the different commodities.

Revenues are broken down according to expenditures on production and marketing activities and net incomes accruing to traders and producers. This breakdown is then further elaborated according to whether revenue remains within the region ("In Region" category in Tables 10.1 to 10.7) or leaves the area (the "Outside" category). By assigning costs and returns at this level, it is possible to demonstrate how each expenditure and return is distributed spatially both inside and outside of the region. In the tables, "Large town" refers to the three major urban centers in the region, Kismayo, Jamaame, and Jilib. "Small town" refers to the eight market centers and 26 local centers classified in Chapter V. "Rural" refers to the 243 settlements classified in Table 2 of Chapter V as noncentral places. "Herder" refers to areas inhabited by the unsettled herder population, and "Outside" refers to anything beyond the five districts of the study area.

Although reference is made to "income multiplication," the figures in the tables in fact reflect distributions of revenues generated by final sales. Income or revenue shares described as "accruing" to various categories of recipients refers to shares of the final price that become income as producer, marketer, or proprietor profits, as wages, or as the second round of other expenditures or transfers. "Second round" means that transactions were traced back to outlays by suppliers of inputs to sellers. Spot checks showed that most second round outlays not explicitly documented as household income in the region do in fact ultimately become income to regional households; that is, relatively little input spending "leaks out" of the region after the second round. True income multiplier calculations generally cannot be done credibly in rural regions of developing countries. The accrual calculation is a rough alternative that is suggestive of income multiplication potential.

B. REGIONAL INCOME MULTIPLICATION POTENTIAL FROM MAIZE

Table 10.1 shows the cost breakdown of the average retail price for maize in Kismayo, denoted by 100 in the first column. Below that is the

share at 23 percent of the retail price which represents the sum of trader costs and net income from all transactions involved in purchasing and selling maize. Below that is the gross income that accrues to producers, which is 77 percent of the retail price, and this includes both production costs and net income to producers.

1. Trader Costs and Net Income

To further illustrate the logic of the table, it is possible to trace the transport costs incurred by maize traders. In the column headed "Total Share," trader transportation expenditures account for 4.6 percent of the retail price, of which 2.3 percent accrues to "Large town"; that is, to recipients in the large urban centers of the region where local transporters

TABLE 10.1: DISTRIBUTION OF REVENUES FROM MAIZE PRODUCTION AND MARKETING

	Total	Total share	Within region: Large Town	Small Town	Rural	Herder	Outside region
Retail price	100.00						
Trader share	23.00						
sacks		2.20	.00	.00	.00	.00	2.20
transport		4.60	2.30	.00	.00	.00	2.30
handling		1.10	.70	.00	.00	.00	.40
taxes		3.00	1.50	1.50	.00	.00	.00
storage		.76	.38	.38	.00	.00	.00
milling		2.00	1.00	1.00	.00	.00	.00
Trader costs		13.66	5.88	2.88	.00	.00	4.90
Net income to trader		9.34	4.60	.00	.00	.00	4.70
Producer share	77.00						
hired labor		16.40	.00	6.50	9.80	.00	.00
tractor hire		7.00	.00	3.50	3.50	.00	.00
seed cost		2.70	.00	1.35	1.35	.00	.00
sacks		1.20	.00	.00	.00	.00	1.20
transport		3.00	.00	1.50	1.50	.00	.00
Producer costs		30.30	.00	12.85	16.15	.00	1.20
Net income to prod		46.70	6.54	21.95	18.21	.00	.00
Totals:	100.00	100.00	17.02	37.68	34.36	.00	10.80

are based and where their income would be spent. The other 2.3 percent accrues "Outside" the region, since other transporters operating in the region are based outside of it, and their income is spent outside the region. Thus, it is evident what proportion of the final retail price is accounted for by transport and also where the revenue from this accrues spatially.

Net income to traders, which accounts for 9.3 percent of the final maize retail price, is distributed similarly because some traders live in the region, based in the urban centers, and others are based outside of it. Table 10.1 shows that though trader costs are relatively low, accounting for only 13.7 percent of the final retail price, their returns of 9.3 percent are also low. Net income to traders is sufficient only to allow them to continue trading but not to enlarge their maize trading or invest in other commercial activities.

There are several things to be inferred from the table about the maize marketing chain. First, trader costs reflect very basic activities; that is, virtually no processing or transformation of maize adds appreciably to its value. Traders are simply performing the most basic tasks in a marketing chain and making modest net income on each transaction or activity. Second, the cost of these activities relative to the final retail price is low, indicating a fairly short marketing chain, with only a few transactions between the farm and the final consumer. Third, storage costs are low, which implies that turnovers are quick, either because supplies are often short or traders do not have sufficient capital to amass large stocks.

2. Producer Costs and Net Income

The producer share of revenue is apportioned mostly between "Small town" and "Rural," since most of the region's production originates in these areas.

Table 10.1 shows that the producer share of the final retail price constitutes 77 of every 100 shillings. This relatively high figure is associated with low trader costs. Of this 77 shillings, 30 shillings go to production expenditures, over half of which is for labor. This underlines the absence of any modern inputs such as agro-chemicals. Tractor hire is the only "modern" input purchased and that is only for plowing purposes. Expenditures for nearly all inputs remain in the region, suggesting high income multiplication for maize production. The remaining 47 of the producer's 77 shillings is net income accruing to farmer households.

C. REGIONAL INCOME MULTIPLICATION POTENTIAL FROM BANANAS

Table 10.2 accounts for costs and income from banana production and marketing in the same way as Table 10.1 did for maize. Costs and net income are specified in total terms under the column headed "Total Share," and then broken down according to how they accrue spatially throughout the region and outside it in the columns to the right.

TABLE 10.2: DISTRIBUTION OF REVENUES FROM BANANA PRODUCTION AND MARKETING

Item	Total	Total share	Within region: Large Town	Small Town	Rural	Herder	Outside region
FOB export price	100.00						
Trader share	50.00						
cartons		28.00	3.50	3.50	.00	.00	21.00
plastic		2.70	.00	.00	.00	.00	2.70
transport		.42	.00	.21	.21	.00	.00
cleaning		4.20	.00	2.10	2.10	.00	.00
packing		1.20	.00	.60	.60	.00	.00
transport to port		4.10	1.03	1.03	.00	.00	2.05
port handling		.40	.40	.00	.00	.00	.00
taxes		4.10	.00	.00	.00	.00	4.10
port charges		.37	.37	.00	.00	.00	.00
labor funds		1.90	.00	.95	.95	.00	.00
Total marketing		47.39	5.30	8.39	3.86	.00	29.85
Net income to trader		2.61	.65	.00	.00	.00	1.96
Producer price	50.00						
management		2.50	.00	1.25	1.25	.00	.00
labor		15.00	.00	7.50	7.50	.00	.00
materials		4.50	.00	.00	.00	.00	.00
agro-chemicals		4.40	.00	.00	.00	.00	4.40
plants		.10	.00	.05	.05	.00	.00
machinery		17.00	.00	.00	.00	.00	.00
labor		1.40	.00	.70	.70	.00	.00
fuel		3.60	.00	.00	.00	.00	3.60
spare parts		6.00	.00	.00	.00	.00	6.00
depreciation		6.00	.00	.00	.00	.00	6.00
Production costs		39.00	.00	9.50	9.50	.00	20.00
Net income to producer		11.00	.00	1.38	1.38	.00	8.25
Totals:	100.00	100.00	5.95	19.26	14.74	.00	60.06

1. Trader Share: Marketing Costs and Net Income

The marketing costs used in this table were provided by Somalfruit. Since Somalfruit is the sole agent for the entire banana export marketing chain, there was no independent way to check the cost figures they provided. The analysis begins with the FOB export price, or the price Somalfruit receives at the port of Kismayo, denoted by 100. Somalfruit takes 50 percent of this price, as indicated for "Trader share," and from this deducts

its marketing costs, leaving an amount for net income. The other half, denoted by 50 for "Producer Share," is allocated to producers to cover production costs and net income.

The first five marketing (trader share) costs, along with the cost for labor funds at the bottom of the list, involve preparing and packing bananas for shipment near the estates. The revenues generated by these activities accrue to the categories headed "Large town" for labor employed at the Somalfruit box factory near Jamaame, and "Small town" and "Rural," since packing stations are situated near villages in both categories. The remaining costs, transport, handling, and taxes, accrue to large towns because these costs are incurred there. The taxes reported in the table are export taxes collected for the central government.

Marketing costs account for 47.4 of every 50 shillings received by the trader, 63 percent of which goes outside the region. A large part of this, 28 shillings, is for the cost of packing cartons, the materials for which are imported. The cartons, however, are assembled locally at the Somalfruit box factory, using labor from large and small towns, represented by the 3.5 shillings for each. The "Small town" category receives the highest percentage of marketing expenditures within the region, because most of these costs involve work at the packing stations or involve the construction of boxes.

The figure for trader net income of 2.6 percent of FOB price is based on an analysis of data provided by Somalfruit. It should be stressed, however, that the figures in Table 10.2 are highly sensitive to the exchange rate used to convert foreign earnings to Somali shillings. While costs are fixed in shillings, revenues depend on the exchange rate obtained. This means, as pointed out in Chapter VII, that net revenues to both producers and Somalfruit could fluctuate widely, depending on whether earnings are exchanged at the official rate or at the parallel market rate.

2. Producer Costs and Net Income

Production costs account for 39 of every 100 shillings of the FOB price, almost half of which goes for management and labor costs, while slightly more than half goes for machinery and agro-chemicals. Of the 39 shillings, the small town and rural sectors receive 9.5 shillings each, since the banana estates are located in these areas. But by far the largest part of productions costs, 20 shillings, leaves the region for purchase of fuel, spare parts, machinery, and chemicals. Thus, for the production of bananas, labor and management are the only locally purchased inputs.

In terms of the net income accruing to banana producers, it is estimated that only 20 percent stays in the region, and that 80 percent goes to plantation owners who live outside. It is unlikely that much of this is returned to the region in the form of purchases of other products or for investments. The benefit to the region from banana exports is thus extremely limited, even when the estates are owned by Somalis.

D. REGIONAL INCOME MULTIPLICATION POTENTIAL FROM CATTLE

The breakdown of revenue from cattle production and marketing activities varies according to different markets. The four different markets discussed in Chapter VIII are used as the basis for the analyses in Tables 10.3 to 10.6. The four cattle markets have to be treated separately, since a trader holds an animal prior to sale for different lengths of time, and this greatly affects costs and, consequently, net income. The tables are based on assumptions that for the overseas market, the trader and middleman each hold the animal for three months prior to sale; for the Kenyan market, the trader and middleman hold the animal for two months and three months respectively; for the Mogadishu market, one and three months respectively; and for the Kismayo market only the trader keeps it for three months.

1. Trader/Middlemen Shares: Costs and Net Income

Cattle marketing frequently involves more than one transaction between producer and final sale, which differs from the marketing pattern described for maize and bananas. The tables for Kenyan, overseas, and Mogadishu trade (Tables 10.3 to 10.5) include net incomes and costs for both traders and middlemen. As may be seen from the tables, net income to traders is highest for the overseas and Kenyan markets (18.07 and 17.47 percent of final price, respectively), while it is lowest for the local Kismayo market (8.54 percent of final price). Although net returns are highest for the overseas trade, marketing costs are also highest, equivalent to 21.41 percent of the FOB price, compared with only 12.5 percent for Kenya, and 13.1 for Mogadishu. As Table 10.4 demonstrates, the overseas export trade involves additional marketing expenses such as port charges, insurance, and quarantine charges that are not incurred in other marketing channels.

Since the majority of overseas export traders are based out of Mogadishu rather than Kismayo, only 20 percent of the net income earned by export traders stays in the region, while 80 percent accrues outside. By contrast, a large percentage of traders involved in the Kenya, Mogadishu, and Kismayo domestic markets reside within the region, and the percentage of net income per trader that remains in the region is 100 percent for the Kismayo domestic trade and an estimated 50 percent each for the Kenya and Mogadishu markets.

Figures for the Mogadishu and Kenyan trade are based on the sales price received at the destination in the import areas, because in approximately 50 percent of the cases a trader from the study region shares in the revenues earned from a final sale in Mogadishu or Kenya and, in some cases, treks the animal there independently. By contrast, calculations for the overseas trade stop at the point of export from the region (i.e., the point when the animals are loaded on the ship), since regional traders do not participate in revenue earned after this point.

Middlemen involved with cattle marketing earn in most cases considerably less net income per transaction than do traders. The highest net returns are for middlemen involved with the Kenya trade because they often

TABLE 10.3: DISTRIBUTION OF REVENUES FROM CATTLE PRODUCTION AND MARKETING: KENYA TRADE

	Total Share	Large Urban	Small Urban	Rural Herder	Rural Farm	Outside
Kenya Price: 100.00						
Trader Share 30.00						
Costs						
Water	0.30	0.00	0.07	0.00	0.00	0.22
Transport	1.00	0.00	0.00	0.75	0.00	0.25
Vet Costs	0.11	0.03	0.00	0.00	0.00	0.08
Risk/Loss(5%)	3.50	0.00	0.70	2.80	0.00	0.00
Hired Labor	0.90	0.00	0.00	0.68	0.00	0.23
Kenya Tax	2.29	0.00	0.00	0.00	0.00	2.29
Broker Fee	1.75	0.00	1.75	0.00	0.00	0.00
Trucked Fodder/ Water	0.67	0.00	0.20	0.00	0.00	0.47
Credit	2.00	0.20	0.80	0.00	0.00	1.00
Trader Costs	12.53	0.23	3.52	4.23	0.00	4.55
Net Income	17.47	2.62	6.12	0.00	0.00	8.74
Middlemen Share 16.67						
Costs						
Water	0.30	0.00	0.12	0.09	0.00	0.09
Fodder	0.08	0.00	0.03	0.06	0.06	0.00
Tax	1.75	0.00	1.40	0.00	0.00	0.35
Risk/Loss(3%)	1.60	0.00	0.32	1.28	0.00	0.00
Broker Fee	1.33	0.13	1.20	0.00	0.00	0.00
Vet Costs	0.20	0.02	0.02	0.00	0.00	0.16
Hired Labor	1.35	0.00	0.27	1.08	0.00	0.00
Middlemen Costs	6.62	0.15	3.36	2.45	0.06	0.60
Net Income	10.05	0.00	8.04	2.01	0.00	0.00
Producer Share 53.33						
Costs						
Risk/Loss(7%)	11.75	0.00	2.35	9.40	0.00	0.00
Vet Costs	1.19	0.12	0.12	0.00	0.00	0.95
Water	0.94	0.00	0.28	0.19	0.00	0.47
Hired Labor	1.05	0.00	0.21	0.84	0.00	0.00
Tax	1.33	0.00	1.07	0.00	0.00	0.27
Stock Cost	4.02	0.00	0.80	3.22	0.00	0.00
Producer Costs	20.28	0.12	4.83	13.65	0.00	1.69
Net Income	33.05	0.00	6.61	26.44	0.00	0.00
Totals	100.00	3.12	32.48	48.77	0.06	15.57

TABLE 10.4: DISTRIBUTION REVENUES FROM CATTLE PRODUCTION AND MARKETING: OVERSEAS EXPORT TRADE

	Total Share	Large Urban	Small Urban	Rural Herder	Rural Farm	Outside
FOB Price[a] 100.00						
Trader Share 39.47						
Costs[b]						
Tax/Fees	1.56	0.42	0.00	0.00	0.00	1.13
Insurance	1.41	0.14	0.00	0.00	0.00	1.27
Bank Interest/Comm	1.17	0.06	0.00	0.00	0.00	1.11
Ship Agency	1.66	0.00	0.00	0.00	0.00	1.66
Brokerage	0.37	0.18	0.00	0.00	0.00	0.18
Port Charge	0.03	0.01	0.00	0.00	0.00	0.01
Feed/related costs	2.63	1.58	0.00	0.00	0.53	0.53
Market Brok. Fee	1.51	0.30	1.21	0.00	0.00	0.00
Water	0.47	0.13	0.01	0.14	0.00	0.19
Vet Costs	0.26	0.02	0.01	0.03	0.00	0.21
Labor	1.18	0.00	0.24	0.95	0.00	0.00
Local Transport	0.53	0.11	0.05	0.37	0.00	0.00
Assoc. Fee	0.26	0.05	0.00	0.00	0.00	0.21
Quarantine/Holding Fee	2.21	0.66	0.00	0.00	0.00	1.55
Risk/Loss (3%)	1.82	0.09	0.27	1.45	0.00	0.00
Fodder	0.39	0.05	0.05	0.00	0.30	0.00
Comm./Office	1.32	0.13	0.00	0.00	0.00	1.18
Trucking Costs[c]	2.63	1.32	0.00	0.00	0.00	1.32
Trader Costs	21.41	5.26	1.84	2.94	0.82	10.55
Net Revenue	18.07	4.52	0.00	0.00	0.00	13.55
Middlemen Share 10.53						
Costs[b]						
Water	0.24	0.02	0.00	0.07	0.00	0.14
Hired Labor	1.07	0.00	0.21	0.85	0.00	0.00
Broker Fee	1.25	0.25	1.00	0.00	0.00	0.00
Vet Costs	0.16	0.02	0.01	0.00	0.00	0.13
Tax	1.51	0.24	0.97	0.00	0.00	0.30
Fodder	0.13	0.02	0.02	0.00	0.00	0.00
Risk/Loss (3%)	1.50	0.07	0.23	1.20	0.00	0.00
Middlemen Costs	5.86	0.63	2.43	2.12	0.10	0.57
Net Revenue	4.67	0.75	2.99	0.93	0.00	0.00

	Total Share	Large Urban	Small Urban	Rural Herder	Rural Farm	Outside
Producer Share[d]	50.00					
Costs						
Water	1.42	0.11	0.32	0.28	0.00	0.71
Vet Costs	1.14	0.17	0.06	0.00	0.00	0.91
Fodder	0.48	0.07	0.07	0.00	0.34	0.00
Hired Labor	1.01	0.00	0.20	0.81	0.00	0.00
Tax	1.25	0.25	0.75	0.00	0.00	0.25
Risk/Loss (7%)	14.15	0.71	2.12	11.32	0.00	0.00
Stock Cost	4.38	0.22	0.66	3.51	0.00	0.00
Producer Costs	23.83	1.53	4.18	15.92	0.34	1.87
Net Revenue	26.17	1.31	1.31	23.55	0.00	0.00
Total	100.00	13.99	12.75	45.46	1.26	26.54

Notes:

(a) Based on exporter holding animal 3 months prior to final sale. The FOB price represents animal of 333kg sold at $950 per metric ton liveweight.

(b) Costs are based on holding period of 3 months prior to sale. Certain export trader costs are based on Stockton(1987:89). The tax rate assumes that only 50% of animals are being transacted at market center and charged a local tax.

(c) The 1987 season was harsh and required trucking animals to Lower Shabelli at SoSh 1000 per animal.

(d) Based on sale of animal at 4-5 years. It gives cost of purchasing animal sometime during first year of animal's life (SoSh 4000). The cost of stock death has been calculated on the basis that value of animal increases 25% each year during years 1-5. The value of inputs were actual values for 1985-87; for 1984 an estimate was made based on an inflation factor. Deflator rates for inflation were as follows:

1987	1
1986	1.28
1985	1.36
1984	1.38

TABLE 10.5: DISTRIBUTION OF REVENUES FROM CATTLE PRODUCTION AND MARKETING: MOGADISHU TRADE

		Total Share	Large Urban	Small Urban	Rural Herder	Rural Farm	Outside
Final Price	100.00						
Trader Share	25.55						
Costs							
Water		0.26	0.00	0.01	0.05	0.00	0.19
Transport		3.79	0.00	0.00	1.89	0.00	1.89
Vet Costs		0.17	0.02	0.00	0.00	0.00	0.15
Risk/Loss(2%)		1.49	0.00	0.30	1.19	0.00	0.00
Hired Labor		0.77	0.00	0.08	0.31	0.00	0.39
Tax		2.50	0.00	0.00	0.00	0.00	2.50
Broker Fee		1.86	0.37	0.37	0.00	0.00	1.12
Fodder		0.57	0.06	0.00	0.00	0.06	0.46
Credit		1.71	0.34	0.34	0.00	0.00	1.03
Trader Costs		13.13	0.79	1.10	3.45	0.06	7.73
Net Revenue		12.42	2.48	3.73	0.00	0.00	6.21
Middlemen Share	13.77						
Costs							
Water		0.51	0.05	0.10	0.15	0.00	0.21
Fodder		0.14	0.03	0.01	0.00	0.10	0.00
Tax		1.52	0.30	0.91	0.00	0.00	0.30
Risk/Loss(2%)		1.21	0.12	0.12	0.97	0.00	0.00
Broker Fee		1.52	0.46	1.06	0.00	0.00	0.00
Vet Costs		0.34	0.05	0.02	0.00	0.00	0.27
Hired Labor		2.31	0.00	0.46	1.85	0.00	0.00
Middlemen Costs		7.57	1.01	2.69	2.97	0.10	0.78
Net Revenue		6.20	1.86	3.10	1.24	0.00	0.00
Producer Share	60.69						
Costs							
Risk/Loss(7%)		13.37	1.34	1.34	10.70	0.00	0.00
Vet Costs		2.03	0.31	0.10	0.00	0.00	1.63
Water		1.61	0.16	0.48	0.32	0.00	0.64
Hired Labor		1.81	0.00	0.36	1.44	0.00	0.00
Tax		1.52	0.30	0.91	0.00	0.00	0.30
Stock Cost		6.90	0.00	1.38	5.52	0.00	0.00
Producer Costs		27.24	2.11	4.57	17.98	0.00	2.58
Net Revenue		33.45	0.00	6.69	26.76	0.00	0.00
Total		100.00	8.25	21.89	52.40	0.16	17.30

TABLE 10.6: DISTRIBUTION OF REVENUES FROM CATTLE PRODUCTION AND MARKETING: KISMAYO DOMESTIC MARKET

		Total Share	Large Urban	Small Urban	Rural Herder	Rural Farm	Outside
Final Price	100.00						
Trader Share	16.73						
Costs							
Water		0.85	0.17	0.08	0.25	0.00	0.34
Vet Costs		0.57	0.08	0.03	0.00	0.00	0.45
Risk/Loss(3%)		2.50	0.25	0.25	2.00	0.00	0.00
Hired Labor		1.89	0.00	0.38	1.51	0.00	0.00
Broker Fee		2.50	1.75	0.75	0.00	0.00	0.00
Fodder		0.24	0.07	0.00	0.17	0.17	0.00
Trader Costs		8.54	2.33	1.49	3.77	0.17	0.79
Net Revenue		8.19	4.09	3.27	0.82	0.00	0.00
Producer Share	83.27						
Costs							
Risk/Loss(7%)		18.77	1.88	1.88	15.02	0.00	0.00
Vet Costs		3.42	0.51	0.17	0.00	0.00	2.73
Water		2.81	0.84	0.28	0.56	0.00	1.13
Hired Labor		3.13	0.00	0.63	2.51	0.00	0.00
Tax		2.09	1.25	0.42	0.00	0.00	0.42
Stock Cost		7.55	1.51	0.76	5.29	0.00	0.00
Producer Costs		37.77	6.00	4.13	23.37	0.00	4.28
Net Revenue		45.50	0.00	9.10	36.40	0.00	0.00
Totals		100.00	12.42	17.99	64.36	0.17	5.07

take the animals to Kenya themselves or maintain partnerships with Kenyan-based traders who share profits from final sales with the middlemen. Net shares of final price for the middlemen in the overseas and Mogadishu trade are relatively low, 4.87 and 6.20 percent, respectively. The middlemen in the overseas trade incur relatively high costs because of the expenses involved with maintaining export-quality animals. However, because the prices for the overseas trade are so high, the net returns in cash equivalency are actually higher for middlemen engaged in the overseas trade than for middlemen in the Mogadishu trade. The net cash return to middleman in the overseas trade is SoSh 1,775 ($8.90) per animal, which is still well below the figure for the Kenya trade, which is SoSh 3,015 ($15.00) per animal. The high returns in the Kenya trade corroborate findings from trader interviews, which indicate: (1) that the Kenya trade is most

profitable for locally-based middlemen and traders; and (2) that overseas traders are having problems procuring enough cattle from local middlemen.

2. Producer Share: Costs and Net Income

The share of final price that goes to cattle producers is highest for the Kismayo domestic trade, where the producer price is 83.27 percent of final price. By contrast, the lowest share is for the overseas trade (50 percent of final price), followed by the Kenya (53.33 percent) and the Mogadishu trade (60.69 percent). The costs of unpaid family labor are not included in the analysis, since they do not involve a market transaction. Attaching an opportunity cost value to this labor would greatly reduce the net returns to producers.

As noted earlier in the chapter, the Kismayo domestic trade is the only market that does not involve middlemen transactions between producer and trader; the producer in the Kismayo domestic trade has better direct access to markets. In all markets, the producer's highest cost is the risk cost associated with cattle production. The risk cost is measured as seven percent, which means that in any given year the animal has a seven percent chance of perishing due to disease, drought, or other factors. The monetary costs of risk are estimated based on the value of the animal in each year leading up to the year when it is sold. Because costs of production for cattle vary only slightly for each market, production costs tend to be relatively constant, although additional expenditures on veterinary drugs, water, and fodder are made in the case of production for overseas export. The lowest costs are for the Kismayo domestic and Mogadishu markets, but they absorb a higher share of final price (37.77 and 27.24 percent, respectively) because the final sales prices are lower (see discussion, Chapter VIII).

Producer prices are highest in the overseas export market, but the net income of producers, as measured by their share of final price, is lowest for this market. The net income to producers is 26.17 percent of final price on the overseas market, 33.05 percent on the Kenya market, 33.45 percent on the Mogadishu market, and 45.50 percent on the Kismayo domestic market. Virtually all the net revenue to producers from cattle production remains within the region.

E. REGIONAL INCOME MULTIPLICATION POTENTIAL FROM MILK

As discussed in Chapter IX, herders frequently sell milk and milk products directly to consumers. The market channels are relatively simple and are all oriented to consumers within the region. Table 10.7 shows the distribution of revenue from milk production and marketing. The final price used for the analysis is SoSh 62 per liter, which is the average price of milk in Kismayo town markets.

TABLE 10.7: DISTRIBUTION OF REVENUES FROM MILK PRODUCTION AND MARKETING

	Total Share	Large Urban	Small Urban	Rural Herder	Rural Farm	Outside
Final Price 100.00						
Trader Share 12.90						
Costs						
Tax/Fee	1.00	0.95	0.05	0.00	0.00	0.00
Transportation	3.00	1.80	0.30	0.00	0.00	0.90
Materials	0.27	0.05	0.00	0.00	0.00	0.22
Loss	2.66	2.13	0.53	0.00	0.00	0.00
Trader Costs	6.93	4.93	0.88	0.00	0.00	1.12
Net income	5.97	5.67	0.30	0.00	0.00	0.00
Producer Share 87.10						
Costs						
Transportation	6.76	4.06	0.68	0.00	0.00	2.02
Tax/Fee	2.03	1.62	0.41	0.00	0.00	0.00
Water	2.95	0.88	0.29	0.26	0.00	1.52
Fodder	2.00	0.25	0.00	0.00	1.75	0.00
Loss	4.35	0.48	0.00	3.87	0.00	0.00
Hired Labor	3.29	0.00	0.66	2.63	0.00	0.00
Vet Costs	3.59	0.54	0.18	0.00	0.00	2.87
Initial Stock	7.93	1.59	0.80	5.54	0.00	0.00
Producer Costs	32.90	9.42	3.02	12.30	1.75	6.41
Net income	54.20	6.05	0.00	48.15	0.00	0.00
Total	100.00	26.07	4.20	60.45	1.75	7.53

1. Trader Share: Costs and Net Income

Trader costs and net revenue are relatively low for those involved in milk marketing. The net revenue is only 5.97 percent of the final price, while the marketing costs are 6.93 percent of final price. The highest cost items for milk traders are transportation (three percent of final price) and milk loss (2.66 percent), which is the amount that spoils or is unsold. A sales tax levied in the marketplace at the point of sale is the only other cost item of any significance, accounting for one percent of final price. It is assumed that all taxes and fees collected by local municipalities for milk are retained in the region. By contrast it is estimated that 30 percent of transportation costs leave the area, in the form of fuel and purchases of spare parts.

2. Producer Share: Costs and Net Income

Herders who sell milk directly to consumers frequently incur transaction costs, such as market taxes and transport fees. These costs are listed under the producer category in Table 10.7 and calculated as production costs because they are incurred by the herder. The other costs of production are related to the actual production of milk and are based upon estimated costs of live animal production. As discussed in Chapter IX, it is not possible to distinguish costs of milk production from live animal production.

The transport costs associated with milk production and trade are especially high when those expenses incurred by the producer are also assessed. The combined transport costs of trader and producer are 9.76 percent of final price, which is higher than any other item in the entire production and marketing chain, though much of it stays in the region since the operators are mainly local.

The net returns to milk producers are equivalent to 54.20 percent of final price, which is high relative to net returns for most cattle markets. This reflects the lack of intermediaries in the market and the small mark-ups by milk traders associated with the competitiveness of the regional milk market. Similar to other commodities that have local markets, such as maize, the proportion of net income retained by the milk producer is high.

F. COMPARATIVE ANALYSIS OF REGIONAL INCOME MULTIPLICATION POTENTIALS

Table 10.8 summarizes the information in Tables 10.1 through 10.7 and shows the percentage of revenue earned and expended from each commodity, as well as that proportion remaining within the region. It also provides a breakdown of costs and net income generated by commodity marketing and production, and it shows how revenues are distributed spatially. Table 10.9 shows the aggregate net incomes to traders and producers involved in commodity production and marketing, in order to compare net incomes from the different commodities.

Of the four commodities examined, the region's share of total revenue is highest for those items being sold in local markets, such as cattle in Kismayo, with 95 percent, followed by milk with 92 per cent, and maize with 89 percent. In these cases, portions of revenue from final sales accrue outside the region only for the purchase of inputs and supplies. Relative returns to the region are lower, but still substantial, for cattle exports to Kenya, at 84 per cent, and to Mogadishu at 83 percent, though significantly lower for the overseas market, at 73 percent. In these cases, a higher proportion of revenues goes to traders and middlemen from outside the region and in the case of the overseas market to outside banks, insurance companies, and the central government.

By far the lowest share of revenues accrues to the region from the export of bananas, which yields a mere 40 percent of FOB earnings. There is reason to believe that true FOB earnings are substantially higher than

available figures indicate, and that the 40 percent is, therefore, significantly exaggerated. As explained in Chapter VI, this is due to the structure of the production and marketing system for bananas, which is dominated by the parastatal Somalfruit, headquartered in Mogadishu. It also reflects the high proportion of outside ownership of banana estates. From a regional perspective, there is little doubt that greater participation of the private sector in distributing inputs and undertaking the marketing activities would yield greater local income multiplication.

On the marketing side, costs range from a low of seven percent of the final price for milk, to a high of 47 percent for bananas, which is almost twice as high as any other commodity, the next closest being 27 percent for the overseas export of cattle. With one exception, at least half the marketing expenditures stay in the region, but for bananas less than a third remain and more than two-thirds accrue outside. While bananas no doubt differ from other commodities, the comparison suggests there are probably opportunities here for lowering costs in the marketing system, thereby raising the producer share and at the same time generating stronger local income multiplication effects.

Net income for traders is consistently high among those involved in cattle marketing, especially to Kenya and overseas, and returns to the region from marketing are also highest among cattle traders. In part this

TABLE 10.8: SUMMARY OF REVENUE DISTRIBUTION IN THE REGION FROM COMMODITY PRODUCTION AND MARKETING

Commodity		Marketing Costs	Net Income Traders	Production Costs	Net Income Producers	Totals
Maize	Final[a]	13.70	9.30	30.30	46.70	100.00
	In Region[b]	8.80	4.60	29.10	46.70	89.20
Bananas	Final	47.40	2.60	39.00	11.00	100.00
	In Region	17.50	0.60	19.00	2.70	39.80
Cattle (Kenya)	Final	19.15	27.52	20.28	33.05	100.00
	In Region	14.00	18.78	18.59	33.05	84.42
Cattle (Export)	Final	27.27	22.74	23.83	26.17	100.00
	In Region	16.14	9.19	21.96	26.17	73.46
Cattle (Mogad.)	Final	20.70	18.62	27.24	33.45	100.00
	In Region	12.19	12.41	24.66	33.45	82.71
Cattle (Kismayo)	Final	8.54	8.19	37.77	45.50	100.00
	In Region	7.75	8.19	33.49	45.50	94.93
Milk	Final	6.93	5.97	32.90	54.20	100.00
	In Region	5.81	5.97	26.49	54.20	92.47

Notes:
(a) As percentage of FOB or final price.
(b) As percentage of FOB or final price remaining in region.

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reflects the number of intermediaries involved and the high risks attached to livestock trading. Net income is lowest for banana traders (Somalfruit), although the figure could be higher, depending on the exchange rate used to convert earnings.

On the production side, costs vary within a narrower band, from a low of 20 percent of revenue from sales of cattle to Kenya to a high of 39 percent of export earnings from bananas. Over four-fifths of the costs of producing maize, milk, and cattle remain in the region, because the production of these commodities depends primarily on local resources, and most of the cost is for the hire of local labor or the purchase and restocking of local animals. The exception once again is bananas, where less than half the production cost is retained. This is due to the heavy use of items imported from abroad, particularly machinery, fuel, spare parts, and agrochemicals.

Net incomes for producers as a share of earnings are highest for those commodities that entail low marketing costs, notably milk, which yields 54 percent, maize with 47 percent, and cattle for local consumption with 45 percent. As the marketing share of earnings increases, so the share accruing to producers as net income declines. Among exports of cattle, producer net income shares range from 33 percent for the Mogadishu and Kenya markets down to 26 percent for the overseas market, all of which nevertheless remains in the region, since that is where the producers live. The lowest share, however, goes to the producers of bananas, with only 11 percent, and most of that also leaves the region as transfers to outside owners.

Judged in terms of their relative potential contribution to regional income multiplication, maize emerges far ahead of bananas, since nearly 90 percent of revenue stays in the region versus only 40 percent of banana earnings. From a regional development perspective, this suggests that priority should be given to raising maize production and increasing the amount that is marketed. Though at present bananas provide more revenue in absolute terms, the difference in their income generating potential means that with modest increases in locally marketed quantities, much more local revenue can be generated from maize production and marketing than from bananas.

In Table 10.9, estimates of aggregate revenues and earnings from the sale of the four commodities are distributed among traders and producers, using the coefficients from Table 10.8. Based on these figures, one commodity clearly dominates all the others in generating income to producers and traders in the region: cattle accounts for 69 percent of net income to producers, and 87 percent of the income to traders. Income accruing to producers from cattle sales is about six times the amount earned by farmers from maize, seven times the income to herders from milk and to plantation owners from bananas. Given the competitive nature of the market, income to

milk traders is less than half what Somalfruit earns from banana trading, even though income to milk producers is almost as much as that going to plantation owners.

Table 10.10 provides a comparative analysis of how revenues from the different commodity systems are divided up within the region and between the region and the outside world. The table shows the gross values of each commodity and the amounts that go to large towns, small towns, farmers in the rural areas, herders, and areas outside the region. The value of marketed maize production, estimated in Table 6.11, amounts to SoSh 239.9 million. This revenue is then distributed across towns and rural areas using the percentages from Table 10.1. The same procedure is used to distribute earnings of SoSh 858 million from banana exports. The figures for cattle combine the four different markets presented in Tables 10.3 to 10.6 and are derived from the actual sales and prices at these four markets (see Chapter VIII). The aggregate estimates of milk revenues are based on the sales and prices in the major milk markets (see Chapter IX). The estimation of aggregate revenues for each of the four commodities takes into account only that part of production that is marketed, and does not include the value of agricultural and livestock products that are consumed by the producing household.

TABLE 10.9: AGGREGATE NET INCOMES IN THE REGION FROM COMMODITY PRODUCTION AND MARKETING (SoSh millions)

Commodity	Net income Traders		Net income Producers		Total Income
Maize	22.3	5%	111.8	12%	134.1
Bananas	22.3	5%	94.4	10%	116.7
Milk	9.7	2%	88.4	9%	98.2
Cattle - All	371.4	87%	642.2	69%	1013.6
Kismayo	39.1	9%	217.1	23%	256.2
Mogadishu	46.6	11%	83.8	9%	130.4
Kenya	249.7	59%	299.9	32%	549.6
Overseas	36.0	8%	41.4	4%	77.5
Total:	425.8	100.0%	936.9	100.0%	1362.7
Percent:	31.2%		68.8%		100.0%

The data in Table 10.10 show that the total value of production and marketing of the key commodities is only SoSh 3,054.8 million ($15,274 million), equivalent to a SoSh 7,875 ($39.40) annual per capita income for residents of the region (based on estimate of 1986 population). The total value of cattle production and marketing exceeds the combined value of the

three other commodities. Moreover, the table demonstrates that though the value of locally produced and marketed maize is barely a quarter the value of banana exports, income remaining in the region from maize production is almost two-thirds that of banana production. This reflects the percentages shown in Table 10.8, where overall 89.2 percent of the final retail price of maize remains in the region, whereas 39.8 percent of earnings from banana exports remains in the region.

TABLE 10.10: AGGREGATE REVENUE DISTRIBUTION FROM COMMODITY PRODUCTION AND MARKETING (SoSh million)[a]

Commodity	Region: Total	Large Town	Small Town	Rural	Herder	Outside Region	Total[b] (Ssh m)
Maize	213.6	40.8	90.4	82.4	.0	25.9	239.9
Bananas	342.9	51.1	165.3	126.5	.0	515.5	858.4
Milk	150.8	42.5	6.9	2.9	98.6	12.3	163.1
Cattle	1542.6	130.4	455.6	3.8	952.9	250.8	1793.4
Totals:	2249.9	264.8	718.1	215.5	1051.5	804.5	3054.8
Percent:	73.7%	8.7%	23.5%	7.1%	34.4%	26.3%	100.0%

Notes:
(a) Calculations are based only on amount of production marketed.
(b) Totals may not sum precisely due to rounding.

Table 10.10 also shows that 32.2 percent of total revenue from commodity production accrues to urban areas in the region. The "large towns" (Kismayo, Jamaame, and Jilib) account for SoSh 264.8 million (8.7 percent of total revenue), while SoSh 718.1 million accrues to small towns (23.5 percent of total revenue). Thus, small urban centers benefit more from current production and exchange systems than do large towns. The major reason for this is the importance of small settlements, such as Libooye and Afmadow, in the cattle trade to Kenya. With the demise of cattle exports from Kismayo port, the importance of Kismayo town in the cattle trade has decreased, while those centers involved in the Kenya trade have increased in significance. Only in the case of milk, which is mainly marketed in large towns, is the revenue accruing to large urban centers greater than revenue for small urban settlements.

The exchange linkages between livestock ("herder") and agriculture sectors ("rural") appear minimal in Table 10.10. There are virtually no inputs from the livestock sector that are used in agricultural production, and only minimal purchases of inputs, mainly fodder, from the farm sector used in livestock production. Noncash transactions of livestock and fodder are not accounted for in Table 10.10, although they do take place in the

region. The linkages between farm and livestock sectors show up more clearly in the analysis of consumption expenditure linkages in Chapter XI. Consumption of locally produced maize is an important expenditure item in the household budgets of herders, linking their expenditure patterns closely to production in the agriculture sector.

A final point derived from Table 10.10 concerns the breakdown of revenue between the region and "outside" areas. Of the total revenue from these commodities, 74 percent stays in the region, while 26 percent accrues outside. The largest loss to the region occurs from banana production and marketing, which amounts to SoSh 515.5 million, or 60 percent of total banana earnings using the most conservative figures. The loss from cattle revenues, amounts to SoSh 250.8 million, only 14 percent of total earnings from cattle, mostly associated with transactions of traders for the overseas market.

G. CONCLUSIONS

Cattle contribute the largest net incomes to traders and producers and the largest gross revenues to the regional economy, about 68 percent of the total derived from the four commodities. Producers of commodities such as maize and milk, that have strong local markets, receive the largest shares of the final price. By contrast, producers oriented to overseas export markets receive the smallest share of the final (FOB) price. These include banana producers and producers of cattle for the overseas market, who gross the equivalent of 50 percent of the final or FOB price.

In terms of regional income multiplication potential, banana production and marketing ranks lowest. It contributes the second largest value of marketed output among the four commodities, but a minimum of 60 percent of this is lost to the region. By contrast, close to 90 percent or more of the value of maize and milk production and marketing is retained in the region. If a market value is attributed to that proportion of production that is consumed by households (see Chapters III and IV), then the importance of either milk or maize to the regional economy is three or four times greater than bananas. In short, banana production and marketing in the region reflects an enclave-type sector with weak linkages to the rest of the local economy.

Of the revenue that stays within the region, the largest part accrues to the herder sector, almost all of which comes from sales of cattle, and a small part from sales of milk. Next follow the small towns, with 24 percent of total revenues, much of which comes from the major role they play in the cattle trade, especially in the Kenyan market. In addition, they derive substantial income from farming, and gain the largest share within the region from bananas. Somewhat further behind are the large towns with nine percent of total revenue, much of it from cattle trading and sales of inputs and services to livestock producers. They also earn almost equal amounts from maize and milk activities, both as producers and from transportation services. Last, the rural areas capture about six percent of the total,

most of it from maize production and trading and from wage labor on the banana plantations.

In absolute terms, production and marketing of the four principle commodities account for the bulk of cash revenues in the region. However, this amount is not particularly high, equivalent to a per capita income of SoSh 7,875 ($39.40) per year. Given this low income, the amount of revenue that is lost to the region, becomes a major concern, not only for the loss in direct income that it represents, but because of its potential for multiplication into substantially more income. The additional income would greatly benefit both producers and urban households, owing to the extensive linkages between herders and towns and between farmers and towns. The loss of income to the region through the banana production and marketing system is a particularly high priority concern because banana plantations occupy the best irrigable lands in the region.

CHAPTER XI

RURAL-URBAN EXCHANGE: CONSUMPTION AND INVESTMENT

A. INTRODUCTION

The previous chapter examined the income impact on the region of each of the main production activities. This chapter examines income multiplication potentials in the region associated with household consumption expenditures and investment. The purpose is to shed further light on the nature of exchanges between rural and urban areas, and specifically to find out how spending by rural households benefits towns, and how spending by town households benefits farmers and herders. The first part of the chapter analyses the distribution of household consumption expenditures in order to determine what part is retained by the region and what part accrues outside the region in the form of purchases of imported items. Of particular interest is the role played by small towns; to what extent do they capture spending by farmers, herders, and other hinterland residents, and what part leap frogs over them to larger towns? The second part of the chapter combines these results with those form Chapter X to estimate the net flows of income and expenditure between the towns and rural areas of the region for the four commodities examined. The last part of the chapter examines available information on sources of household income and types of investments, as an indication of the flow of savings, remittances, and capital between urban and rural areas, and between sectors of the local economy. Such information suggests how surpluses in each sector are being used and to what extent regional income is being transformed into additional employment and income generating opportunities.

B. HOUSEHOLD CONSUMPTION EXPENDITURES

In what follows, first, average spending is calculated for four groups of items - food, clothing, nondurables, and services - by household types representing four sectors of the regional economy: large towns, small towns, rural areas, and herders. Then, estimates are made of the proportion of spending by each household type that accrues to these four sectors within the region and that accrues outside the region. Next, aggregate spending by each group of households is calculated by multiplying average spending by the number of households in each sector. Finally, by applying the proportions calculated in the second step, estimates are made of the distribution of aggregate spending among each of the four sectors within the region and outside the region.

1. Composition of Expenditures

Average monthly household expenditures were estimated for four sectors of the region: large towns, small towns, rural areas, and the herder population. The large towns sector includes the three largest towns of the region, Kismayo, Jilib and Jamaame. Figures for household spending are based on data collected from a survey of 83 residents in those towns. The

rural sector comprises the 243 settlements classified in Table 5.2 of Chapter V as noncentral places, and expenditure estimates are based on the survey of farm households. Figures for the herder sector are a composite of two surveys of herder households, one conducted in the wet season, the other in the dry season. The small towns sector comprises the eight market centers and 26 local centers classified in Chapter V, and the profile of expenditures is a weighted average based on the estimated number of farm and nonfarm households. Although there has been considerable inflation in Somalia recently, no adjustments have been made to the data, since the consumer price index stayed within a fairly narrow range during the period June to October 1987, when the data were collected.

The surveys of farm, herder, and urban households did not attempt to collect comprehensive information on all types of expenditures but only a small subset, considered to account for the major part of most family budgets. The items included in the surveys cover food, clothing, nondurable goods, and services, which combines water, electricity, and education. No data were collected on expenditures for durable goods, housing, or other services. Initial investigations indicated either that spending on these items was minor or that reliable information could not be obtained. The list of specific items varies somewhat in each of the three surveys, reflecting different consumption priorities revealed by initial field tests. Some adjustments have therefore been made to the raw data in order to make the profiles comparable across household types. The results are shown in Table 11.1.

TABLE 11.1: COMPOSITION AVERAGE OF MONTHLY CONSUMPTION EXPENDITURES BY HOUSEHOLD TYPES

Item	Large town		Small town		Farmer		Herder	
	SoSh	%	SoSh	%	SoSh	%	SoSh	%
All food	11192	83%	7044	83%	5065	83%	8988	82%
6 food items	8050	60%	5477	65%	4249	69%	7805	71%
sugar	1892	14%	1409	17%	1179	19%	3103	28%
maize	760	6%	896	11%	961	16%	3632	33%
wheat	1011	8%	444	5%	174	3%	47	0%
meat	1747	13%	1060	12%	732	12%	91	1%
milk	1644	12%	863	10%	490	8%	728	7%
oil & ghee	996	7%	804	9%	713	12%	206	2%
Clothing	154	1%	283	3%	344	6%	1106	10%
Expendables	1488	11%	847	10%	541	9%	722	7%
Services	584	4%	305	4%	172	3%	139	1%
Durable goods	no data							
Housing	no data							
Total:	13418	100%	8478	100%	6122	100%	10954	100%
People/HH	6.7		7.6		8.1		9.1	
Per capita spending	2006		1109		756		1208	

Average household spending in large towns is more than twice the level among rural households, and more than two-and-a-half times higher on a per capita basis. Spending among herder households is about 80 percent of the level among large towns, but only 60 percent on a per capita basis after making allowances for the larger number of household members. Per capita spending in small towns is 55 percent the level of the large towns.

In each case, food is clearly the major expense, accounting consistently for more than 80 percent of the household totals. Six items form the bulk of this spending: sugar, maize, wheat, meat, milk, and oil ghee. These six items alone account for a minimum of 60 percent of all consumer spending, and as much as 71 percent by herder households. For herders, maize is the single largest item, absorbing fully one-third of the average budget, followed by sugar with more than a quarter. Purchases of maize are still 16 percent of spending among rural households, even though most of them grow it, reflecting the fact that it is often sold at harvest time and repurchased later. For households in large towns, however, maize represents only six percent of all consumption, being largely replaced by wheat, which absorbs eight percent of the budget. Given the prominence of livestock in the region, the consumption of meat, milk, and ghee not surprisingly features as a large part of cash expenditures by all settled households, ranging between 20 and 30 percent. Since herder households usually provide for themselves, they rarely need to purchase these items, except in the dry season when they substitute powdered milk for fresh milk. Vegetable oil and ghee, both used for cooking, are also a big expense item, accounting for as much as 12 percent among rural households.

Spending on clothing varied widely, from one percent among urban households to ten percent among herders. Town households, on the other hand, spend more on services, due partly to consumption of electricity which is available only in the three large towns and one or two other places, and to higher charges for water, which is often free in rural areas.

2. Distribution of Expenditures

Looking first at the percentage distribution of all household expenditures, the results are contrary to initial expectations. A priori, it might be expected that higher levels of expenditure, which usually reflect higher levels of income, would be associated with more widespread purchases of goods and services imported from outside the region, and hence a lower proportion of spending staying inside the region. As Table 11.2 shows, of every one hundred shillings of expenditures by large town households only 30 accrue outside the region. Rural households spend less than half as much, yet 38 out of every 100 shillings leave the region. Among herder households this rises to 46 out of every 100 shillings, even though average spending is only 80 percent of that in large towns. Food accounts for the major part of spending that leaves the region (see Table 11.3). Of the 46 shillings of herder spending that leaks outside, 34 shillings, or about three-quarters, are associated in some way with food, which is also the case for households in rural areas and large towns, though slightly less for those in small towns.

TABLE 11.2: PERCENTAGE DISTRIBUTION OF CONSUMPTION EXPENDITURES BY SECTOR AND HOUSEHOLD

From: \ To:	Region: All region	Large town	Small town	Rural	Herder	Outside region	Total
Large urban	70%	32%	13%	6%	19%	30%	100%
Small urban	70%	11%	32%	6%	20%	30%	100%
Farm/rural	62%	10%	28%	13%	11%	38%	100%
Herder	54%	17%	24%	12%	2%	46%	100%

The wide variation among the four household types in the proportion of spending that leaves the region is explained in part by shifts in consumer preferences, and in part by what households produce. The high herder spending that accrues outside the region can be traced to large purchases of sugar and maize and to a lesser extent cloth, accounting for 28 of the 46 shillings that leave the region out of every 100 shillings. Although sugar is grown and produced within the region at Mareerey in Jilib District, a substantial part of factory earnings leaves the region in the form of fees for management services and technical assistance, and turnover taxes and profit shares to the central government. In the case of maize, as estimated in Table 6.11 of Chapter VI, even in a good year like 1986, only one half of regional demand for maize is met from local producers, while the rest has to be imported from outside. Clothing is mostly produced in Mogadishu or imported from abroad. What is true for herders is largely true for rural households, although the leakage is lower because consumption of sugar and maize is somewhat lower.

The proportion of spending that leaves the region steadily declines as households become settled and more urban. First, consumer preferences shift away from sugar and maize towards wheat, meat, fruit, and vegetables. Wheat is almost entirely imported from abroad, but most of the locally consumed fruit, vegetables, and meat is produced within the region itself. Second, as households become more urban, they provide less of their own food needs from the family farm and purchase more. As a result, the component of spending that stays in the region rises from 54 shillings out of every 100 among herders to a high of 70 shillings for households in both large and small towns, 60 or more of which are for food.

The distribution of spending within the region again depends on consumer preferences and what the household produces itself, but two other equally important factors enter the picture: the location where people do their shopping; and the nature of the marketing and distribution networks associated with major consumption items. Spending by households in large towns benefits those same towns most, gaining 32 percent of the total, since that is where they do their shopping, bringing revenue to retailers and

TABLE 11.3: PERCENTAGE DISTRIBUTION OF CONSUMPTION EXPENDITURES BY ITEM, SECTOR, AND HOUSEHOLD

Item	All region	Large town	Small town	Rural	Herder	Outside region	Total
	Region						
Large town HHs							
Food	60%	25%	12%	5%	19%	23%	83%
(6 food items*)	46%	15%	9%	3%	19%	14%	60%)
Clothing	0%	0%	0%	0%	0%	1%	1%
Expendables	6%	4%	1%	1%	0%	5%	11%
Services	3%	3%	0%	0%	0%	1%	4%
Total:	70%	32%	13%	6%	19%	30%	100%
Small town households							
Food	62%	10%	27%	6%	20%	21%	83%
(6 food items*)	50%	7%	20%	3%	20%	14%	65%)
Clothing	1%	0%	0%	0%	0%	3%	3%
Expendables	5%	1%	3%	1%	0%	5%	10%
Services	2%	0%	2%	0%	0%	1%	4%
Total:	70%	11%	32%	6%	20%	30%	100%
Rural households							
Food	55%	8%	25%	11%	11%	28%	83%
(6 food items*)	46%	6%	20%	8%	11%	24%	69%)
Clothing	1%	1%	1%	0%	0%	4%	6%
Expendables	4%	1%	2%	0%	0%	5%	9%
Services	2%	0%	0%	2%	0%	1%	3%
Total:	62%	10%	28%	13%	11%	38%	100%
Herder households							
Food	48%	13%	22%	11%	2%	34%	82%
(6 food items	44%	11%	22%	10%	2%	27%	71%)
Clothing	3%	2%	1%	0%	0%	7%	10%
Expendables	2%	1%	0%	0%	0%	5%	7%
Services	1%	0%	0%	0%	0%	0%	1%
Total:	54%	17%	24%	12%	2%	46%	100%

* Sugar, maize, wheat, meat, milk, oil/ghee.

wholesalers there. The next to benefit are the herders, with 19 percent of the total, reflecting the substantial purchases of meat and milk. Virtually the same pattern holds true for spending by households in small towns, with 32 Percent going to those same towns and 20 percent to herders. While lower shares accrue to small towns from wholesaling and transportation, higher spending on maize by these households benefits the farmers who live there.

Spending by rural households that stays in the region also primarily benefits small towns, to which 28 percent of the total accrues. This is partly because rural households spend proportionately more on maize, and also because they periodically shop in small rather than in larger towns farther away. Shopping by rural households in their own villages largely accounts for the 13 percent of spending that remains in the rural areas, while less frequent purchases of meat, milk, and ghee is the reason why the herder share drops to 11 percent. As mentioned earlier, herder households buy large quantities of maize and shop in settlements throughout the region. This benefits small towns most, with 24 percent of their total spending, large towns next, with 17 percent, and even rural areas, with 12 percent. Little accrues back to herders, since they rarely have reason to buy consumption items from each other.

3. Aggregate Monthly Expenditures

Of the fifty thousand households in the region, roughly similar proportions - a little more than a quarter - live in the large town, small town, and herder sectors, with the remaining 20 percent living in small towns. Nevertheless, large towns account for more than a third of total of aggregate monthly household consumption expenditures, herders for a little less than a third, small towns for a fifth, and rural areas for only one eighth (see Table 11.4).

Table 11.5 shows that a little less than two-thirds of all household consumption expenditures accrue within the region and one third accrues outside the region. The bulk of household consumption expenditures that leaves

TABLE 11.4: AGGREGATE MONTHLY CONSUMPTION EXPENDITURES BY HOUSEHOLD TYPE

Household type	Number of HHs	Percent HHs	Average per HH (SoSh)	Total SoSh 000s	Percent Total
Large town	13600	27%	13418	182482	36%
Small town	13031	26%	8478	110482	22%
Rural	9982	20%	6122	61112	12%
Herder	13873	27%	10954	151965	30%
Total:	50486	100%	10023	506042	100%

the region is made by herders and to a lesser extent households from large towns, which together make up two-thirds of the outflow.

As was shown in Table 11.1, a high proportion of household consumption expenditures of all four types of households is for food, much of which is produced within the region, including virtually all the sugar, milk, meat, most fruit and vegetables, and a portion of maize and rice. The main purchases of items produced outside the region include maize, wheat, rice, tea, and pasta, as well as certain manufactures, chiefly clothing, soap, and detergent. Even when goods are imported from outside the region, 20 percent to 30 percent of the consumer price is retained in the region by wholesalers and retailers.

TABLE 11.5: DISTRIBUTION OF AGGREGATE CONSUMPTION EXPENDITURES BY HOUSEHOLD AND SECTOR (Somali shillings 000s per month)

From: Household \ To:	Region					Outside region	Total
	All region	Large town	Small town	Rural	Herder		
Large urban	128196	57916	23870	11548	34862	54286	182482
Small urban	77032	12481	35469	6898	22185	33450	110482
Rural	37992	5964	16966	8158	6905	23120	61112
Herder	81686	25151	36219	18014	2301	70279	151965
Total:	324906	101512	112524	44618	66253	181135	506042
Percent:	64%	20%	22%	9%	13%	36%	100%
No. of HHs	50486	13600	13031	9982	13873		
Monthly Receipts/HH	6436	7464	8635	4470	4776		

Maize, more than other commodities, influences the proportion of household spending that accrues or does not accrue to the region. The figures in Table 11.5 were computed on the basis of the 1986 harvest, in which it is estimated that 53 percent of the maize purchased by households in the five districts was produced locally and the rest imported from the Shabelle or abroad. Under this estimate, 64 percent of spending is retained in the region. If, however, local maize production could be raised to meet two-thirds of regional household consumption purchases, the region's share of total spending would rise to 67 percent. If output increased to the point where the region was completely self-sufficient, the figure would rise to 71 percent, seven percent higher than currently.

Overall, the largest share of regional household consumption spending accrues to small towns with 22 percent of the total, followed closely by large towns with 20 percent. Since regional herder and large town households together account for the bulk of regional expenditures, their spending

patterns weigh heavily in determining accrual distributions. Small town earnings from regional consumption expenditures come almost equally from households in those towns and from herders, with somewhat less from large towns. The small town sector combines both farmers and traders, as well as owners of retail businesses, and the small town benefits from returns to producers as well as intermediaries.

Well over half the earnings accruing to large towns from household consumption expenditures comes from large town households, followed by another quarter from herders. These earnings are made up primarily of returns to wholesalers, retailers and other traders, and to the transportation sector. They also include some returns to agricultural producers, but virtually nothing to the manufacturing sector, since there is still so little of it. Almost all manufactured items are imported from outside the region, some from Mogadishu but most from abroad.

Herder households, on the other hand, earn most from large towns, followed by small towns, which reflects relative levels of spending on livestock products. Rural households earn most from herders, reflecting their purchases of maize and use of village shops.

C. REGIONAL INCOME MULTIPLICATION POTENTIAL FROM KEY COMMODITIES AND CONSUMPTION EXPENDITURES

Table 11.6 is based on information from Chapter X and information from the preceding section of this chapter. It shows the distribution of income accruing from production and marketing of key commodities as well as from household consumption in the region. Key commodities produced and consumed inside the region are reflected in the "Regional purchases row." The rows reflect expenditures by regional households and the outside world; the columns reflect income accurals resulting from these expenditures, as indicated in earlier tables.

When spending by households is combined with exports to the outside world, total purchases amount to SoSh 8,247 million ($41.2 million), of which almost two-thirds is retained by the region itself and one-third accrues to the rest of the world. For the region as a whole, a little less than three-quarters of earnings are derived from local household purchases and one-quarter from exports, most of it cattle. Within the region, the highest proportion, SoSh 1,885 million or 23 percent of the total, accrues to households in small towns. Like the region as a whole, slightly more than one-quarter of these earnings are from exports. The next highest proportion, 17 percent of all sales, accrues to herder households. A little under half of this is derived from exports of livestock and the rest from sales within the region, much of it to large towns. Only eight percent of total earnings accrues to rural households, most of it from regional purchases but nearly a fifth from banana exports.

The large towns capture 16 percent of earnings from these sources, slightly less than the herders. Of this income only nine shillings in a 100 is from exports of bananas and livestock, which is the lowest ratio among

TABLE 11.6: ANNUAL INCOME ACCRUING FROM REGIONAL PURCHASES AND EXPORTS BY HOUSEHOLD CATEGORIES (SoSh 000,000)

\Income \Accruing / Purchases	Region: All region	Large urban	Small urban	Rural	Herder	Outside region	Total
Regional purchases	3899	1218	1350	535	795	2174	6072
Subtotal exports:	1432	122	535	129	646	742	2174
Banana exports	343	51	165	126	0	516	858
Cattle exports	1089	71	370	3	646	227	1316
Total:	5331	1340	1885	665	1441	2916	8247
% distribution	65%	16%	23%	8%	17%	35%	100%
% from region	73%	91%	72%	81%	55%	75%	74%
% from outside	27%	9%	28%	19%	45%	25%	26%
Total:	100%	100%	100%	100%	100%	100%	100%
No. of HHs (000s)	50.5	13.6	13.0	10.0	13.9		
Annual Receipts/HH	105598	98553	144679	66603	103853		

the four sectors of the region. However, unlike other sectors, the large towns also receive substantial income from other sources that are not reflected here. These include transfer payments from the central government to district and regional offices and earnings from urban enterprises particularly in the construction, transport, and service sectors and to a lesser extent from manufacturing industries. Some part of these earnings come from exports, such as sales of fish by Somali Marine Products, and revenues from the operation of the port. Nevertheless, rough calculations suggest that export earnings are unlikely to make up as significant a share of total income for large towns as for other sectors of the region, particularly small towns and herders.

The preceding estimates make it possible to derive a rough idea of the amount which these activities contribute to household incomes in the region. Given total net regional income from these sources of SoSh 5,331 million ($26.7 million), and a total of 50,500 households, average annual earnings per household for the region as a whole comes to SoSh 105,600 ($528). It ranges from a high of SoSh 144,700 ($724) among small town households to a low of SoSh 66,600 ($333) per household in rural areas. These figures are probably on the high side, since only a partial allowance has been made for farmer costs of producing maize and retailer costs of operating a store. Average annual earnings for herder households is in the region of SoSh 104,000 ($520), based on an estimate of 13,900 households. Average earnings for households in large towns is shown to be SoSh 98,500 ($493) from these

sources, to which should be added other income from the sources mentioned in the preceding paragraph.

D. INVESTMENT AND CAPITAL TRANSFERS

This section examines household investment. In a developing economy, rising incomes from agriculture give rise to growing demand for nonfarm goods and services, which spurs growth of investment and employment in other sectors of the economy. Chapter II presented evidence indicating that a smaller proportion of the labor force is working in agriculture today than previously, and that more are working in manufacturing, transportation, and particularly commerce. Is this shift reflected in household investments? If so, what kinds of investments are households making, where are they located, and what do they mean in terms of capital transfers from one sector of the economy to another, and from one part of the region to another?

Information for this analysis is derived from the surveys of urban households, retailers, farmers, and herders. The information gathered was necessarily partial but nevertheless indicative of the prevailing patterns.

1. Urban households

The survey of households in Kismayo, Jilib, and Jamaame indicates that some 80 percent own some form of business (Table 11.7). About two of every five households operate a farm, a similar proportion own livestock, and almost half run an urban-based business of some kind like a store, teashop, petty manufacturing, or trading enterprise. One-half of the heads of households regard their business as their primary occupation, one-half of the households derive at least some income from their businesses, but only one-third depend on it as their primary source of income. Several factors may explain the surprisingly high proportion of urban households that run a business. First, many families that have recently moved to the urban areas continue to maintain a family farm or a herd of livestock, even though they may have taken some form of employment or started a new business in town. Second, many households that rely on wages or remittances as their primary source of income - the two-thirds that do not primarily depend on a business - feel a need to develop alternative or supplementary earnings, especially those with low salaries, such as government employees.

Even though 80 percent of urban households own some kind of business, only 23 percent made any significant investments in their businesses during the previous year. This suggests that either these activities are labor intensive, using minimal amounts of capital, or that it is difficult for many to accumulate the necessary savings. About one-third of those with a town business invested in it during the previous year, and about one-quarter of those owning farms did so. Virtually none of those owning livestock purchased any animals in the year preceding the survey, no doubt reflecting the adverse climatic conditions at the time.

The vast majority of all the business activities are located within the same district as the household that owns it, with a small number located in an adjacent district.

2. Retailers

All retailers, de facto, are owners of a business, but the survey of retailers shows that four of five own other businesses of some kind. Two-thirds own a farm, and more than half have livestock, which underscores the close relationship between these activities. Almost half the retailers had either been farmers or herders before taking up commerce, and many of them still maintain their farms or herds. However, few of them operate other nonfarm businesses, and if they do, it is usually another store. Running the store, or another one, is the primary occupation for most of the shop-keepers, though 22 percent reported farming as their main activity, and

TABLE 11.7: BUSINESS OWNERSHIP AND INVESTMENT BY URBAN HOUSEHOLDS

Type	Percent owning	Prime job	Prime income	Derive Income	Invest (Y/N)	Location: Same district	Location: Same region	Location: Outside region
Farms	40%	16%	13%	24%	11%	97%	3%	0%
Livestock	37%	2%	0%	14%	1%	N/A	N/A	N/A
Stores	12%	7%	5%	6%	2%	90%	10%	0%
Teashops	4%	1%	1%	4%	1%	100%	0%	0%
Other business	31%	22%	14%	25%	12%	88%	8%	4%
Property	nd							
Total:	80%	48%	34%	47%	23%	93%	6%	1%

TABLE 11.8: BUSINESS OWNERSHIP AMONG RETAILERS

Type	Percent Owning	Prime job	Same district	Same region	Outside region
Farms	66%	22%	95%	5%	0%
Livestock	57%	3%	N/A	N/A	N/A
Other stores	8%	5%	92%	8%	0%
Teashop	2%	0%	100%	0%	0%
Other business	4%	1%	100%	0%	0%
Property	no data				
Total:	81%	31%	95%	5%	0%

three percent indicated herding was their main activity. As was the case with urban households, the vast majority of these other business activities are located within the same district as their store, though five percent were in nearby districts.

3. Farm households

The link between farming and commerce is borne out by an analysis of business ownership among farm households (Table 11.9). The proportion of farm households that own another business is 30 percent. However, more than half of these are retail stores, like the typical dukaan found in any village, or tea shops. These are low-cost enterprises, yielding a wide range of income, and households can maintain them at the same time as engaging their farming activities. A number of household heads are self-employed tailors, carpenters, and the like, who provide services to the local community operating from their farms. In each case, these are full-time nonfarming occupations, providing the principal source of income to the household. A few people own rental property, and even fewer possess herds of livestock, though they may have a few animals as part of their farm.

TABLE 11.9: BUSINESS OWNERSHIP AMONG FARM HOUSEHOLDS

	East		West		Total	
Type	Number of HHs	Percent HHs	Number of HHs	Percent HHs	Number of HHs	Percent HHs
Livestock	2	3.2%	0	.0%	2	1.8%
Stores	10	16.1%	9	18.8%	19	17.3%
Other nonfarm business	3	4.8%	5	10.4%	8	7.3%
Rental property	1	1.6%	3	6.3%	4	3.6%
Total owning a business	16	25.8%	17	35.4%	33	30.0%
Total households:	62	100.0%	48	100.0%	110	100.0%

4. Herder households

Of the four groups interviewed, herder households tend to be the least involved with other business activities (Table 11.10). This is perhaps to be expected, since it is clearly more difficult to operate a business when the household is regularly on the move. In light of this, the more than 20 percent that do own other businesses is a substantial proportion. Of those that do have some kind of other business, half take the form of retail stores, and the other half are town houses, many of them rented out. Herders from the Kismayo area are more likely to engage in a nonfarm business than those from Afmadow District. The majority of retail stores are located in rural villages, while most housing investment tends to be in

TABLE 11.10: BUSINESS OWNERSHIP AMONG HERDER HOUSEHOLDS

Type	Number of HHs	Percent HHs
Retail stores	11	11.0%
Urban housing	11	11.0%
Total households owning a business:	22	22.0%
Total number of households:	100	100.0%

Kismayo town. More than half of the herders who have nonfarm investments have more than one such investment.

5. General Patterns

Several patterns emerge from the analysis of business ownership and investment among the households of the region. First, urban households and retailers are more likely to have other businesses than farmers or herders. Many of them own farms or livestock herds in rural areas, often a residual from previous activities before they moved to town. They also continue to invest in these activities, though less in livestock, particularly when conditions are adverse. Second, farmers and herders tend to favor small retail stores as a form of business investment, and judging by the experience of the retailers, a number of them may eventually take up retailing as their principal activity in place of farming and herding. Third, the vast majority of business activities are located close to where the household lives, or in the case of herders, close to their home base.

E. CONCLUSIONS

While Chapter X focused on the spatial distribution of income generating activities associated with the production and marketing of key commodities, this chapter examined patterns of distribution of income accruing from consumption expenditures and household investments. An analysis of household budgets reveals that food is by far the largest household consumption item, accounting consistently for more than 80 percent of the expenses for which data were recorded. Six items are of particular importance: sugar, maize, wheat, meat, milk, and oil/ghee.

The regional supply and demand for maize more than any other factor determines the share of household consumption expenditures that ultimately accrues or does not accrue as income to regional households. Maize supply is determined in the short run by climatic conditions and in the long run by land quality, water resources, technology, and so on. Maize demand is determined by household disposable incomes, availability and relative prices

of effective substitutes, and climate (herder households, for example, purchase particularly large amounts of maize at times of drought, when milk is scarce). In good years, local producers supply little more than half the maize demanded by regional households.

Two additional factors figure in a major way in the distribution of spending and income accrual among urban and rural areas in the Kismayo Region: the locations where people do their shopping, and the nature of the marketing and distribution networks associated with major consumption items. Households in large towns account for the bulk of consumption spending, followed in order of magnitude by herder households, small town households, and rural households. Rural households tend to be both poorer than other households and more self-sufficient. Of all regional household consumption spending, a little less than two-thirds accrues as income to regional households. The portion that does not accrue within the region is accounted for mainly by herder purchases of maize, much of which is imported from outside the region.

When earnings from the sale of key commodities are added to earnings from local consumption expenditures, about a third of the total accrues within the region. Small towns take the largest share of the combined total, followed by the herders and then the large town households. However, the large town households also receive substantial income from other sources including transfer payments from the central government to district and regional offices and earnings from urban enterprises particularly in the construction, transport, and service sectors, serving markets outside the region to some degree.

An analysis of household investment patterns shows that rural households tend to favor retailing as a first choice for nonagricultural business investment and rental property as a second choice. Urban households, however, are more likely to operate a commercial or petty manufacturing enterprise, although nearly two out of five households, and an even higher proportion among retailers, maintain a farm or livestock herd. Almost without exception, investments in business activities are located close to where the household lives or, in the case of herders, close to their home base.

As was the case with respect to production and marketing discussed in Chapter X, an intricate web of rural-urban exchange patterns related to household consumption and investment emerges from the data presented. Small town households capture roughly one-quarter of rural and one-quarter of herder household consumption spending. Approximately another quarter of rural household consumption spending accrues as income to rural and herder households, but a portion of the trade involved in this takes place in small towns. One-fifth of all regional household consumption spending accrues as income to households in the larger three towns. Only about a third of regional consumption expenditures accrues as income outside the region. There is an active process of spending and "respending" - that is, of income multiplication - within the region, in which smaller towns, and to a lesser extent larger towns, play important roles. The analysis suggests that a regional economic growth dynamic would be most effectively fostered by measures that enhance the returns to farming, so that small farmers have

more to spend, and that facilitate the market center sales of small towns, so as to increase the velocity of the income multiplication process. The data further suggest that as incomes rise through this process, farm and herder household investment in town enterprises will rise, leading to stronger urban economies, regional economic diversification, and more diversified income sources essential to entrepreneurial risk-taking on the part of rural herder and town households.

PART THREE

CONCLUSIONS

CHAPTER XII

SUMMARY AND INTERVENTION RECOMMENDATIONS

A. INTRODUCTION

While this study was not undertaken for the purpose of producing development intervention recommendations, the field work and analyses lead to important conclusions for fostering a more prosperous regional economy that are offered here. The first part of this chapter reviews a number of key findings from the study and their significance for development priorities. Subsequent sections of the chapter identify government policy reforms, institutional measures, and physical capital investments that might be considered.

B. REGIONAL DEVELOPMENT OBJECTIVES AND PRIORITIES

The Kismayo regional economy is based on livestock and agriculture. Exports of cattle and to a lesser degree bananas provide the main source of outside earnings for the region and will continue to do so for some time into the future. Regional income multiplication benefits associated with bananas, however, are relatively low. The performance of the export sector directly affects overall economic growth in the region. At the same time, the region has the capacity to provide much of its basic food needs, including maize, but especially milk, meat, and sugar. The size of the maize harvest greatly affects the need for imported food and hence the outflow of local income. There is a relatively vibrant pattern of rural-urban exchange in the region that, if fueled by greater local spending capacity and supported by improved marketing facilities, can provide the basis for dynamic regional economic growth.

1. Livestock Markets

The experience of the Saudi Arabian ban on livestock imports from Somalia in 1983 showed just how volatile certain markets can be. The overseas export market from Kismayo continues to show considerable instability, with an 80 percent drop in cattle exports from 1986 to 1987. The Kenya market, on the other hand, has shown a steady increase in volume over the past five years, and short- and medium-term prospects for this market look good. It generates considerably more revenue to the regional and local economies than does the overseas export trade and also involves a greater proportion of local traders than does the overseas trade, which is heavily controlled by outside traders. The Kenya trade is less selective in its choice of cattle and, therefore, is more easily accessible to small- and medium-sized producers than is the overseas trade, which buys only very large bulls and oxen aged four to seven years.

The uncertainties that surround any livestock market implies that the more options that are left open, the better it is for the producer, as well as for the region. Producer prices in the area seem to be highest when the

four cattle markets in the region are functioning simultaneously. Efforts to promote livestock production and exports should not, therefore, seek to support all trading channels, including the Kenya and Mogadishu markets.

2. Maize and Bananas

The banana plantations and the main maize producing areas lie beside each other and compete for the use of the same resources of land, water, labor, and to a lesser extent capital. Maize is the staple food for the local population and the single largest import item in regional trade. Nevertheless, bananas generate much needed foreign exchange for the country, and significant outside income for the region. Under current circumstances, even in years with a good harvest such as 1987, sales of maize yield less revenue for the region than bananas. The production of bananas also generates wage earning opportunities for members of farm households, which helps to diversify rural incomes. While it is clearly desirable that output from plantations and small farmers should both be raised, steps need to be taken to encourage the appropriate use of scarce resources, particularly of land and water, to ensure that the interests of small farmers are adequately protected, and to foster greater expenditures within the region in association with banana production and marketing.

3. Regional Development Objectives

These observations and other discussions in earlier chapters, point to five primary objectives for regional development policy. These are:

a. to increase earnings from cattle and banana production and export marketing;

b. to retain a larger share of cattle and banana export earnings for households within the region;

c. to reduce the loss of regional income through imports of basic foods by raising productivity among maize farmers;

d. to spur sectoral and spatial diversification of economic activity in the region through measures that foster expansion of small-scale enterprises and employment catering to local needs;

e. to strengthen the role of towns through improved access and infrastructure and services by improving access to them and improving infracture and services within them in support of agriculture, livestock production, trade, and other economic activities.

To achieve these objectives, a range of development interventions can be considered. At the national level, several policies have a direct bearing on the performance of the regional economy, particularly the foreign exchange rate, price controls, and the role of the private sector. At the regional level, several measures can be explored for improving the

management of resources and the performance of government agencies. In addition, there is a great need for a wide range of physical infrastructure in the region, particularly that which can support economic activities, and improved infrastructure maintenance.

C. MACROPOLICY

1. The Foreign Exchange Rate

The Kismayo Region economy is largely driven by the commodities it sells abroad and to a lesser extent to the rest of the country. In the past, controlled exchange rates have had the effect of reducing the Somali shilling equivalent of foreign earnings from exports, and, hence, lowering the revenue to traders and producers in the region. During 1988 the fixed rate of SoSh 99 to the US dollar was replaced by a floating rate set weekly by the national bank. By the end of August 1988, the shilling had fallen to around 220 to the US dollar, but it was unclear whether this represented a true market equilibrium rate or merely a step in a controlled transition towards one.

Nevertheless, the rate at which revenue from banana exports is exchanged into Somali shillings has a pronounced effect on potential net income to Somalfruit and the banana plantations. The figures in Table 10.2, based on an exchange rate of SoSh 126 to the US dollar, suggest that returns from production are modest, and from marketing minimal. At a higher free market rate, however, revenue to producers and exporters rises significantly, making it feasible for both to pay higher wages and for producers to expand output, which would mean taking on more labor. Other things being equal, higher wages and expanded work opportunities would raise earnings to rural households.

In the livestock sector, a free market exchange rate would primarily benefit those exporters catering to overseas markets. Overseas exporters find it increasingly difficult to compete with buyers for the Kenyan market, given the rates at which they were required to exchange their foreign earnings for Somali shillings. Kenyan traders, on the other hand, are usually not subject to the same controls, given the unofficial nature of the trade across the border. A free rate, however, would not only increase earnings by overseas exporters, it would also make them more competitive in world markets and would allow them to bid higher prices for animals on the local market, thus pushing up prices generally, to the benefit of herders and the regional economy. It would also spur the Kenya trade indirectly by removing the risks associated with parallel market activities.

A free market rate would work to the advantage of all those involved in the export market, not just those concerned with cattle and bananas but also agencies like Somali Marine Products (SMP). Recently, SMP was losing business to small scale traders in the export of fish and fish products, since it was subject to exchange controls while its competitors were able to circumvent them. The loss of business represented a serious threat to the longer-term financial viability of SMP. The lifting of controls on foreign

exchange would remove an artificial handicap from SMP, allow them to compete fairly with others, and in the process to pay local fisherman higher prices for their catch.

A free market exchange rate would, of course, raise the price of numerous imported goods, including many inputs required for the production of exports, such as fuel oil, machinery, spare parts, veterinary supplies, and raw materials for plastic bags and cartons. Nevertheless, these items represent only a part of total production costs, and the additional cost would be exceeded by increased revenues from export sales.

A free rate would also raise the price of many consumer items. Judging from the survey of household expenditures, urban households would feel the impact most, through price rises of wheat, bread, cooking oil, rice, and pasta, while herders would notice the difference mainly in their purchases of powdered milk in the dry season. All households would feel the rise in purchases of nondurable goods from overseas, like clothing and detergent, but staple foods like maize, meat, milk, and sugar would be largely unaffected, since these are all produced within the country. A free market rate would alter the terms of trade between urban and rural areas more in favor of rural areas and herders at the expense of the urban population. Nevertheless, a large part of the additional revenue accruing to those involved in the production and marketing of exports would find its way back to large and small towns, including 24 percent of the increase in banana revenues, 27 percent of the rise in earnings from overseas exports of cattle, 33 percent of the associated increase in other cattle sales, and 44 percent of additional spending by herder households.

A free market exchange rate for foreign currency is likely to be benefit the region more than a controlled rate that overvalues the Somali shilling. According to Table 11.6, the region spends SoSh 2,916 million on goods and services from outside the region, about a third of which, SoSh 972 million, would be affected by a move to a free market excaange rate. On the income side, the region earns SoSh 2,174 million from exports of livestock and bananas, SoSh 1,017 million of which would be directly affected by such a move. Moreover, this figure is based on exceptionally low exports of cattle overseas, and can normally be expected to be considerably higher. In any case, even under the current situation, the additional expenditures for production and consumption implied by a rise in the price of imported items, resulting from a switch from controlled to free market rates, would be more than offset by the additional revenues arising from foreign earnings, yielding a net gain for the region as a whole. A free rate might also strengthen the local market for locally produced small nonfood consumer goods.

2. Price Controls

In February 1988, shortly before field work for this study was completed, the government re-introduced price controls, initially for a limited number of basic food items but gradually extending them to cover a wide range of goods and services.

The effects were many. Stores immediately withdrew much of their stock or sold low quality goods at the controlled price. Artificial shortages quickly developed in many items, and a parallel market developed with higher prices than before, reflecting the added risk for sellers who circumvent set prices and expose themselves to fines or bribes to officials policing the price controls. While those involved in production and marketing for foreign markets are cushioned to some extent against reduced earnings in the domestic market, those producing entirely for the local market are much more severely affected. Over the long term, production of many items decreases as producers at the margin find their profit margins reduced or eliminated altogether, creating genuine shortages in supply. As a result, both producers and traders lose earnings, while increased costs reduce the purchasing power of existing income.

To the extent that controlled prices are below market prices, and are observed, they alter rural-urban terms of trade against farmers and herders, in favor of urban households. In practice, this is a doubtful benefit, since supplies are reduced and there is less to buy. For some producers, especially parastatals like the Jubba sugar factory, the controlled price may be close to or below production costs. In such cases, they may have to cease production or continue only with government subsidy or by taking out loans to cover operating losses. Unless prices are increased to cover costs, there is little chance the borrower will be able to repay these loans in the future. This means losses to the lending bank or a de facto subsidy in the form of transfers from the central bank. In sum, rather than curbing inflation, price controls actually exacerbate the situation by creating shortages and a parallel market with even higher prices than before.

The partial or complete removal of price controls would benefit the region as a whole. Excess demand from consumers would initially push up prices, making it profitable once again for local producers to resume production. As supply starts to catch up with demand, this would gradually help to dampen further price rises of domestically produced goods. Traders would benefit from increased turnover in business, and consumers would benefit from the easing of shortages and a reduction of artificially inflated prices in the parallel market. As a result, incomes to producers and traders would rise, and the purchasing power of consumers would increase.

3. Privatization of Public Agencies

The Kismayo Region already earns substantial income form the export of certain key commodities, but the longer-term economic development of the region hinges on the gradual diversification of the economy into a broad range of other activities. The first place to look for such opportunities are the backward and forward linkages associated with the production of the key commodities. These linkages offer opportunities for adding further value in the production sequence from raw material to finished consumer product and for ensuring that an increased share of potential added value is captured within the region, rather than being lost to the outside world. These activities help to raise income among primary producers, to create nonfarm jobs in urban centers, and to foster regional income multiplication.

Currently, many services and activities associated with primary production are nominally run by government agencies. Examples include the meat factory, tannery, supply of veterinary drugs, Jubba sugar factory, and Mogambo and Fanoole estates. In many cases, these operations are not run as profit-seeking businesses, but as agencies that receive budgetary allocations from the central government to cover expenditures and which, in turn, are expected to hand back to the central government revenues accruing from their activities. But given severe budgetary constraints faced by the central government, many of these agencies receive totally inadequate funds to go about their business, with the result that levels of output and productivity are low or in some cases zero.

There are several opportunities here for turning over selected activities and services to the private sector. Such a move has several potential advantages. It would release unproductive capital and resources currently tied up in government agencies, generate business opportunities, create new jobs, and further diversify the economy, bringing a range of benefits to the region. Four cases merit special attention.

a. Meat Factory and Tannery

Studies have already been prepared or are under way on the possibility of privatizing the meat factory and the tannery in Kismayo. A resumption and expansion of activities by these plants would spur demand for animal products in the region and bring additional jobs to Kismayo town. The tannery also offers a potential source of additional revenue to herders and traders from the sales of hides and skins. In this case, a simple interim measure would be to abolish official prices for hides and skins which are well below market rates and which effectively preclude the tannery from purchasing the raw material inputs they require.

b. Veterinary Supplies

In the livestock-producing areas of the region, drugs are available both from the government and from private traders/businesses, with private purchases being more prevalent. Herders expend on average more than SoSh 7,000 per annum on veterinary drugs, most of which are spent on trypanosomiasis-related drugs. GTZ is currently working on a tsetse fly eradication program in the region, which should help reduce the incidence of trypanosomiasis. In the interim, animal diseases are still prevalent in the area and improvements in veterinary services are required.

Despite government intentions and policy, in practice private traders already account for almost three-fourths of veterinary drug purchases by herders in the region. Yet their role in the veterinary trade is not recognized by the government, although the veterinary department does not have sufficient resources either to control private traders or to deliver services that private traders are capable of providing.

To integrate private traders into the delivery system would require action at the national-level, since it affects regions other than Kismayo. Several measures should be considered. The veterinary department could

compile a list of drugs that it feels private traders are capable of distributing. At the regional level, the regional veterinary coordinator could work with the district veterinary officers to comprise lists of locations that are not well served by government veterinary services. These will most likely include many of the smaller settlements outside of the district centers, where most services are provided by private traders. Arrangements could be made to use private businesses in these smaller centers to distribute veterinary drugs. According to the herder surveys, the only consistently reliable source of veterinary supplies is Kismayo town itself, even though herders spend most of their time closer to smaller settlements. A bigger role for the private sector would help to improve veterinary and other livestock-related services in the smaller towns that are important in the Kenya trade, such as Afmadow, Diff, and Libooye.

c. Boreholes

Under present government policy, the WDA is responsible for constructing, operating, and maintaining boreholes that provide water for livestock during the dry season. But the WDA reports severe problems in maintaining this service due to limited budgetary allocations, inadequate foreign exchange to buy spare parts and machinery, and price controls on water.

In light of this, the government should consider ways of turning over this service to the private sector. For example, private individuals or firms could be invited to bid for borehole licenses, paying the WDA monthly or annual fee. In turn, the successful bidder would be responsible for operating the borehole at agreed periods and maintaining it in proper working order, but would be free to set prices at a level to generate sufficient revenue to purchase fuel and spare parts to maintain the facility and generate a profit. Competition from other borehole operators and implied competition from those with wars or ponds, ought to ensure that excessive profits do not accrue.

d. Electrical Power

Few settlements in the region have power, and most of those that do are supplied by generators operated by district authorities that only function for a few hours a day, and often break down.

In one or two places, however, people who own generators have started to provide limited service to neighbors and nearby businesses, notably in Libooye. Because district authorities have scant resources and limited capacity to provide service, the government should consider ways of formalizing such arrangements and encouraging private suppliers to step into the market. Relatively small-scale operations, using diesel, solar, or wind power, can be cost-effective and will bring power to smaller settlements long before a national grid.

4. Food Aid Imports

Most food aid takes the form of wheat, vegetable oil, and some rice, although the mix changes from year to year. Much of the food aid is

destined directly for refugee camps, but supplies for the national market are intended to be auctioned by the government. The volume donated is supposedly calculated to make up the anticipated shortfall between domestic production and demand.

At the local level, evidence from the survey of farm households suggests that food aid imports probably do not materially affect levels of maize production. Imports of rice and wheat reduce demand for maize, and hence the price. On the other hand, a lower volume of food imports would prompt greater consumption of maize, inducing traders to search the region for surpluses to sell elsewhere. In sum, it seems reasonable to expect that reductions in food aid would bring higher domestic prices, thus raising farm household incomes, and possibly production, in the region. The benefits would multiply throughout the region because of the high farm household propensity to spend locally.

5. Domestic Marketing Policy

Policies effecting the marketing of maize have changed in the past few years. ADC, the parastatal responsible for maize marketing, no longer has sole authority to buy and sell grains. Instead, maize traders now operate freely in the region and have assumed a larger share of marketing activity. Maize trader margins account for 23 percent of the consumer price. The large number of small traders are clearly spreading this revenue more widely around the region than a single government parastatal, which is also required to return any trading profits to the central government.

The liberalization of the maize marketing system has had a beneficial impact on multiplying local incomes, and should be maintained. Reduced controls allow private traders greater freedom to enter the market, and result in more efficient matching of demand with supply, bringing higher prices to producers in surplus areas, such as Jamaame, and lower prices to consumers in deficit areas such as Afmadow.

D. INSTITUTIONAL MEASURES

1. Public Facilities for Import-Export Trade in Kismayo

In order to expand the volume of foreign trade through Kismayo, steps should be taken to improve key services needed by importers and exporters. Chief among these are financial services for letters of credit, up-to-date information on government regulations, and access to government offices responsible for issuing documents and authorizations. Ostensibly, the relevant ministries have regional offices or representatives in Kismayo that are empowered to issue the necessary authorizations, yet local traders complain of difficulties in getting accurate information and long delays in obtaining necessary documents. Instead, many, especially livestock traders, find it more expedient to conduct business through Mogadishu. A large percentage of income from livestock sales is lost to the region because traders and trade companies are not based in Kismayo. Even those traders who reside in the region and export only from Kismayo port maintain offices in

Mogadishu to facilitate access to needed services. Further investigation is needed to identify the precise causes of the delays in processing papers in Kismayo.

Livestock traders have difficulty obtaining letters of credit in Kismayo, and the short-term duration of the credit makes it difficult for them to take advantage of seasonal fluctuations in animal prices when assembling herds for export. This suggests a review of credit arrangements for livestock traders is needed.

It is estimated that more than 10 percent of the gross revenue earned from exports could be rechanneled to the region if export traders operating out of Kismayo were willing to relocate to the region. Over the longer term, this would stimulate the expansion of foreign trade there, and would also help to bring about a much needed increase in trade through Kismayo port, making use of its recently improved facilities.

2. Regulating the Use of Water from the Jubba River

Water from the Jubba River is scarce during part of the year, and there are many competing demands for its use from plantations, estates, small farmers, and herders. The heavy use of Jubba River water for irrigation of large-scale projects and banana estates leaves small-scale maize producers to fend for themselves. The jurisdiction of the existing management board extends only up to the top of the Lower Jubba Region, and its membership does not include representatives of either herders or small farmers.

The Ministry of Planning and Jubba Valley Development should review existing arrangements for managing the water resources of the river and consider alternative mechanisms for ensuring effective control over water use and the efficient and equitable consumption of this scarce resource. A management system needs to be set up to cover the entire length of the river, since offtake at points higher up affects the amount available lower down. Such a board will become all the more necessary if or when the Baardheere Dam is completed. Given the length of the river and the many interests involved, it might be appropriate to set up a number of regional boards to ensure adequate representation of small farmers and herders.

3. Community Based Grazing Associations

Two critical natural resources required for livestock production are water and rangelands. The lack of water is not generally a major constraint to livestock production, except in certain northern and western parts of the region. A more critical constraint is the availability of pasture. In fact, excessive water development has led to migration into the region by other herders and excessive localized grazing, which in Afmadow District has threatened the sustainability of cattle production in certain areas.

To improve the provision and use of natural resources for livestock production, consideration should be given to establishing community based grazing associations. While the National Range Agency maintains a presence in the Kismayo Region, it has little actual role in regulating water and

range use. The function of the grazing associations would be to control the number and location of watering points, to promote the more productive and efficient use of grazing areas, to regulate the use of seasonal pastures, and to mediate between local herders and larger institutions such as the WDA and the NRA. The grazing associations in the Central Rangelands should be examined as a possible model for the Kismayo Region.

In collaboration with the NRA, the grazing associations would assume responsibility for current policies to restrict private water development in the rangelands of the Kismayo Region, which would have a favorable impact on income and income distribution as well as on the physical environment. Many traders were able to benefit from the government's ambitious water development program in the area by building private water points. From 1982 to 1987, the number of privately owned water ponds in Afmadow District increased from approximately 2,000 to 5,000. Many of these are owned by large herders who hold animals for export traders, or by traders themselves. The prohibition on further private water development in the area that was initiated in 1987 could be coupled with a program to remove unnecessary water ponds, especially those owned by traders and other nonpastoralists, a move that is supported by local herders.

The grazing associations should also be involved in the planning of any projects for enclosing land either for water development or market holding grounds. Similar to the situation for small-scale farmers in the region, the land and water rights of herders need to be protected vis-a-vis the large state irrigation and marketing schemes, and this suggests the need to introduce national legislation governing the use of land and water use.

4. Milk Marketing Cooperative

Net incomes from milk trading remain very low because of excessive competition among sellers and high transport costs relative to returns. Milk trading employs thousands of women in the region. The net returns to milk trading could be improved through the formation of a market cooperative, which would allow traders to share the costs of certain capital equipment, such as a vehicle and storage facilities, and would help to reduce excessive market competition. The cooperative could be established for Kismayo town. An NGO with experience in cooperative development could be approached to assist in establishing the organization.

In this connection, two other points should be mentioned. First, the recent "dumping" of powdered milk on private markets in the region competes with the activities of milk traders and reduces their profits. Careful consideration should be given to the effects that the recent growth in imports of powdered milk to the region is having on local milk trade. Most of the powdered milk observed in the region came from the EEC countries. An analysis of expenditure patterns among herders and townspeople shows that considerable amounts of income are spent on imported powdered milk. While some of the purchases helped make up for shortfalls in local production due to the drought, considerable revenue is lost to herders and town dwellers, and the region as a whole where large amounts of cheap, powdered milk are sold on the local market. To a certain extent, the problem should resolve

itself when the foreign exchange rate is freed, since the increased price of powdered milk will reduce its appeal as a substitute for locally produced milk.

Second, establishment of a large-scale dairy industry at this point is not advisable. Not only is it unlikely to be economically viable, but it might displace many of the women involved in milk trading, who have few other employment opportunities. Again, readjustment of the exchange rate will make such a project even less viable, since capital and production costs would probably push up sale prices to the point that it becomes no longer competitive with local suppliers.

5. Parastatals and Service Delivery

A number of parastatals or government agencies are involved in the provision of services to the Kismayo Region, such as the WDA, AFMET, the Kismayo water board, ENEE, and the Ports Authority. Many of them suffer from similar problems. Due to fiscal constraints, their budget allocations from the central government are inadequate to allow them to fulfill their responsibilities properly. They are unable to obtain the foreign exchange needed to buy equipment and spare parts to maintain machinery and vehicles. Low salary levels mean they cannot compete with the private sector and, therefore, cannot attract or hold qualified staff and skilled technicians. Without the necessary resources, their activities have to be curtailed, sometimes coming to a complete stop. As a result, facilities cease to be used, the productivity of capital and labor falls, and public funds are wasted.

As was discussed earlier, it may be possible to turn over certain activities to the private sector, but in other cases, this will not be feasible or desirable. In such cases, steps should be taken to relieve some of the constraints and free the agencies concerned to become more productive and competitive by assuming greater responsibility for their own affairs. This means essentially a greater level of financial and managerial autonomy. For example, agencies could be given greater freedom to set their own user charges for the services they provide, and to develop and expand into new service areas. They could be allowed to bid for foreign exchange on the open market alongside the private sector and permitted to pay competitive salaries in order to attract capable staff and managers. Some agencies, such as the Ports Authority, are currently obligated to pay the central government heavy turnover taxes and a high share of profits, leaving them with insufficient funds for maintenance and capital reinvestment. In such cases, it might be more appropriate for the government to tax the agency like any other corporation and, where the government holds stock or a share of the capital, to receive interest and dividends like any other investor.

Granting these agencies greater financial autonomy would help them to become more competitive and more productive. As such, they would be able to contribute more effectively to supporting agriculture, livestock production, and other economic activities and to raising incomes among the households of the region.

In this regard, AFMET has a particularly important potential role to play in researching methods of agricultural production in the region and providing extension services to local farmers. Additional resources are needed to allow AFMET to devise innovations that are applicable to local farming problems, since at present there is little relevant research being done in the region. Although any investments to undertake such research would offer pay-offs some time in the future, they are vital elements of the changes needed to improve the regional agricultural production system.

6. Local Government Finance

District councils are responsible for many services but lack adequate financial resources to provide them effectively. Since the central government is not in a position to offer supplementary grants to the districts, efforts should concentrate instead on ways to strengthen the fiscal position of local authorities. There are several ways this could be done. Districts can be given technical assistance to improve collection of revenues under current entitlements. Central government can authorize smaller, more frequent increases to tax rates, service tariffs, and fees, to keep pace with inflation and the costs of providing local services. Alternatively, central government can delegate greater autonomy to the districts in setting their own rates. Technical assistance can also be provided to improve the management and operation of local services, and particularly to review current methods of financing the initial construction of urban services, such as water, roads, and surface water drainage, and recovering capital costs.

7. Mobilization of Community Resources

Communities face severe deficiencies in the provision of many basic services and facilities. Few settlements can count on potable water supplies, adequate farm to market roads, or properly functioning electrical power supplies. There is also a widespread dearth of infrastructure in support of agricultural and livestock production, such as animal dips, flood control works, and irrigation systems. Even where such facilities do exist, they are often poorly maintained, or out of operation. Given the current constraints on central government spending and the limited resources available to regional authorities for the provision of public services, communities are clearly not going to be able to depend on the government to fulfill their needs.

Instead, therefore, attention should be given to potential opportunities for mobilizing the resources of communities themselves in constructing, operating, and maintaining local facilities and services. One approach would be for the Party to play an active role in replicating some of the successful programs that its members have instituted in certain villages. There are also numerous NGOs in Somalia, a number of which might be interested and willing to take the initiative in organizing such efforts or otherwise participating in them, for example:

> village water committees to operate and maintain wells or other potable water supplies and to disseminate information on waterborne diseases and proper preventive measures;

b. farmer irrigation committees, along the lines of those in the Shabelle, to construct and maintain simple water distribution channels and to coordinate watering schedules;

c. herder committees to construct, operate and maintain dips for cattle and other livestock in collaboration with the veterinary service or private traders of drug supplies.

Such projects may be used as catalysts to mobilize community groups. Once formed, and operating successfully, they may be encouraged to expand their activities to include other infrastructure and services needed by the community.

8. Somalfruit

In absolute terms, bananas presently generate larger revenues than maize, yet the share accruing to the region is much lower for both marketing and production. Only 40 shillings in every 100 of the FOB price remains in the region, 26 of which is for locally hired labor.

There are a number of ways in which banana production could yield higher benefits for the region. One way is to raise production. Another is to convert foreign earnings to Somali shillings at the market exchange rate, rather than the lower controlled rate. A third is to increase the share of revenues accruing to the region. Somalfruit and the producers are apparently engaged in negotiations over proposals to change the current fifty-fifty split in earnings by raising the share for producers.

Whether this comes about or not, there are opportunities for transferring certain functions currently performed by Somalfruit itself to local businesses. For example, some of the marketing functions currently performed by Somalfruit such as packing and transporting bananas to the port of Kismayo might be given over to private local concerns so that a higher percentage of the FOB price would remain in the region for costs and net income. Some of the input delivery and other services Somalfruit offers might also be turned over to private local firms to increase revenues remaining in the region from these activities. Investments would be needed in trucks and equipment and in the capability to import inputs and/or export bananas. Some firms might at present be capable of handling one or two of the necessary functions, but none is capable of carrying out all the activities that Somalfruit currently performs.

If a higher proportion of revenues from banana production and marketing activities can be retained in the region, especially with the help of more local business participation, then income generation and multiplication will be further enhanced. Many of the businesses would be urban based for transport and importing inputs, so the revenues would remain in the urban sector. With the high levels of revenue that bananas now offer, a reapportionment of even a small share of the total value could bring big benefits to the region and encourage new activities.

E. PHYSICAL CAPITAL

1. Baardheere Dam

Probably the single most critical variable affecting agricultural productivity in the study region is water. At some times of the year there is not enough water in the Jubba River to meet the needs of all concerned, and at other times there is too much, which often leads to disastrous flooding, as was the case in 1987.

In this respect, the construction of the Baardheere Dam would clearly benefit the region, allowing a more predictable and consistent flow of water down the river. Although this study did not investigate the potential impact of the dam, it is clear that it could greatly relieve current seasonal shortages and alleviate competition among users, particularly between the banana plantations and small farmers in Jamaame District. It would also allow the Fanoole hydroelectric plant to operate all year and make it feasible to extend the grid to serve Jamaame and possibly other communities as well.

2. Mini-irrigation Works

Small farms on either side of the Lower Jubba River fall into two groups: those on land that is annually inundated by the overflow from the Jubba River, and those that are strictly rainfed. Much of the irrigation infrastructure serving the inundated areas is in disrepair. Water flowing into the canal that feeds the area is uncontrolled because the gate that once operated no longer functions. This means water flows into the area in years of high flooding in greater quantities than is necessary and remains in the fields beyond the time for planting. As a result, crops are often destroyed and planting is delayed.

To improve flood control in the inundated areas, existing irrigation works should be rehabilitated. As a start, the floodgates could be repaired so that water can be more effectively regulated to avoid the problems that uncontrolled flows now create.

In addition, a program of mini-irrigation projects could be launched to bring water to small farms in the rainfed areas adjacent to the Jubba River. With the exception of the few farmers who participate in the two cooperatives in the region that have diesel pumps for irrigation and the estate employees who have occasional access to irrigated land, most of the farmers on rainfed land have no access to irrigation. While the potential for gravity-fed systems is limited, evidence form the middle Jubba suggests it is economically viable to use small diesel engines to pump water short distances. According to reports, private entrepreneurs may be renting or leasing pumps to small farmers there in return for a share of the harvest. Judging by the proliferation of pumps in recent months, many farmers appear to consider the expense a worthwhile investment, and the construction of the Baardheere Dam would enhance the feasibility of such a program. Both the rehabilitation and extension of irrigation infrastructure should be accompanied by the formation of user committees as discussed earlier.

3. Infrastructure for Livestock

a. Lahaley Holding Ground

In spite of the marked decline in overseas demand for livestock, large-scale infrastructure investments are currently being planned for this market, including construction of an improved quarantine yard and holding ground at Lahaley outside of Kismayo town. The rationale for this is that improved health facilities for cattle are likely to reopen the Saudi Arabian cattle market for Somali producers. Even if this happens, however, levels of exports from Kismayo are unlikely to attain the volume of the early 1980s, since competition for this market is greater today, while the size of the domestic market for cattle in Saudi Arabia is smaller.

b. Boreholes for the Kenya Trade

On the other hand, a more promising prospect for cattle exports is the Kenya market. Many of the boreholes in the region, however, are located along stock routes oriented toward the overseas export market, which means that they are concentrated in Kismayo District and the southern part of Afmadow District. The stock route toward the Kenya border - between Afmadow and Libooye towns - is poorly served by boreholes capable of providing water throughout the year. This lack of permanent water points along the Kenya market route accounts in part for the small number of cattle exports to Kenya during certain months of the year. Additional boreholes should be established in strategic locations along the Kenya stock route, since this market now accounts for considerably more exports than does Kismayo port.

4. Roads

With the exception of the main road from Mogadishu through Jilib and south to Kismayo, which is metalled, most of the roads in the region are little more than bush tracks, many of which become impassable in the rainy season such that whole areas are cut off for months at a time, especially in Afmadow and Badhaadhe districts. A capital investment program for roads in the region should focus on extending the main highway network to link Kismayo better with its hinterland, while ongoing activities should concentrate on improving the maintenance of existing roads and tracks. All this should aim especially at improving market town access and linking urban centers.

a. Capital Investment

Poor roads connecting Kismayo town to its hinterland hobble its potential growth. Two major links are needed, one from Jilib north to Baydhabo, the other from Kismayo through Afmadow to Libooye on the Kenya border. The first would extend Kismayo's area of influence within the middle Jubba, and allow the port to compete more effectively with Mogadishu in serving the area. This would be especially important if the construction of the Baardheere Dam goes ahead, since large amounts of imported supplies and machinery will be required.

The second link to the Kenya border is currently under review by the African Development Bank. A previous feasibility study apparently concluded that major investment in this road is not warranted at present due to the low volume of anticipated traffic. However, it is clear that once built it would stimulate activity in the region, and reinforce Kismayo's position as the principal service center for the population in surrounding areas. It would spur trade with Kenya, facilitating the transport of imports to the rest of the country. It would open up possibilities for milk traders in the Afmadow area to enter the expanding Kismayo market. Distribution costs of manufactured goods and items imported from overseas to settlements in the area would also be significantly lower.

One link that should not be built at this time is between Jilib and Afmadow. If this were then coupled with a link from Afmadow to the Kenya border, much of the traffic between the border and Mogadishu would by-pass Kismayo, and much of the future growth in urban activities would probably shift from Kismayo to Jilib. The adverse effects of bypassing a town in the early stages of development are evident in Jamaame, which has grown at half the pace of Jilib after the new highway between Jilib and Kismayo replaced an older route through Jamaame.

b. Maintenance

Neither the Department of Highways nor the district authorities are currently able to undertake much road maintenance. The DoH's capacity should improve with an imminent infusions from the World Bank and Japan, but even so it would do well to consider opportunities for adopting more labor-intensive methods of road maintenance and repair, and more appropriate standards of construction. If capital and foreign exchange is scarce for purchases of vehicles, spare parts and fuel, then emphasis should be placed on utilizing abundant labor in the region equipped with cheap hand tools. If funds are inadequate to build metalled roads to international engineering standards, then the aim should be to build and maintain earth and gravel roads that at least are passable in the rainy season. The department might consider possibilities for providing basic equipment to groups of households along a route, and contracting them to clean culverts, trim brush, and carry out simple regular maintenance along limited lengths of roadway.

Priority consideration should be given to upgrading and maintaining the road between Kismayo and Afmadow so that it can be used all year.

5. Power

The hydroelectric plant at Fanoole currently operates at about 15 percent of capacity most of the time. Although no detailed studies have yet been prepared, it would apparently not be difficult or expensive to extend the grid beyond Kamsuuma to Jamaame. Some investment would be required to upgrade the distribution network in the town, and possibly to replace an aging generator for use when Fanoole is unable to operate at times when the difference in water levels is insufficient. Consideration should also be given to the possibility of hooking up other settlements along the route of the grid. The provision of power to these settlements would raise

productivity among existing enterprises and spur new nonfarm businesses, as for example the ice-makers, welders, and workshops in Kismayo, and a private theatre showing videos in Libooye.

6. Telecommunications

Telecommunication facilities between Kismayo and the rest of the world have never been good, and recently worsened after the collapse of the microwave towers in Kismayo and Mogadishu. As reported elsewhere, livestock traders and other business people in Kismayo frequently mentioned the difficulty of communication as one of the reasons they prefer to conduct business from Mogadishu rather than Kismayo, especially exporters and importers.

Top priority should be given to the restoration of service to Kismayo and to improving telecommunication facilities in the town, including telex and fax capabilities. These are not major investments, and they will yield substantial benefits for local businesses, greatly enhance the town's capacity to conduct long-distance transactions, and thereby spur local import-export trade.

7. Water Reticulation for Kismayo Town

Apart from the problem of potable water supplies in smaller settlements throughout the region, which was discussed above, Kismayo town itself needs an improved water supply system. The present infrastructure has been steadily deteriorating for several years through inadequate maintenance. Some rehabilitation is scheduled under the port project, but over the longer term, consideration should be given to increasing the capacity of the system and extending reticulation within the town. As the population grows and business activities expand, the present facilities will become increasingly inadequate to meet demand. The Jubba River remains the most viable source of supply, and will become a more reliable one if the Baardheere Dam is constructed.

APPENDICES

APPENDIX A:

OCEAN FISHING

Note: As part of this study, SARSA commissioned a special report on ocean fishing which was to have been included in this volume. However, due to circumstances beyond SARSA's control, this report was not received prior to printing. Instead, the following brief note summarizes a number of issues affecting the fishing sector in the region.

I. PRODUCTION

Ocean fishing takes place mainly south-west of Kismayo along the coast to the Kenyan border. Fish are not abundant, but at certain times of the year, there are good catches of high value fish, particularly lobster and shrimp.

Three fishing cooperatives are active along the coast, based in Kismayo, Ras Kiambone, and Kulmis. These three cooperatives have an estimated combined membership of about one thousand, although probably only 400 are actively fishing at any one time. Many members are also farmers and therefore busy in their fields during the seasons for planting, weeding, and harvesting.

The Ministry of Fisheries supposedly provides technical assistance to members of these cooperatives, and supplies boats to them at subsidized prices. But the Ministry's capacity to carry out these responsibilities depends on the availability of necessary funds, particularly for the purchase of boats. Fishing gear is available from Somali Marine Products (SMP) in Kismayo.

According to SMP sources, many boats are out of action because fisherman lack the funds to purchase needed spare parts. Presumably, most or all income from fishing is spent on immediate family needs, making it difficult or impossible for them to accumulate sufficient savings. Apparently, fishermen have no access to credit facilities.

II. MARKETING

Fisherman have few options for selling their catch. They sell most of it to SMP, which freezes it at its refrigeration plant in Kismayo, built in 1983. By far the greater part is then exported by SMP's parent office in Mogadishu to Saudi Arabia or the European Economic Community. A minor part is sold on the domestic market, mainly in Mogadishu. Fishermen also sell a small part of their catch not wanted by SMP in the Kismayo coastal marketplace, where the price is about 80 percent of that usually offered by SMP.

In 1987, local fishermen were selling an increasing share of their catch to private exporters from Mogadishu, who offered better prices than SMP. One source claimed that SMP was unable to compete with these private traders because it was obliged to exchange its foreign earnings at the official exchange rate of SoSh 99 to the US dollar, rather than the higher parallel market rate. Another source claimed that SMP's offer price was low because its overhead costs were inflated by an excessively large number of employees on the payroll at the Kismayo plant.

According to interviews with SMP personnel in June 1987, they expected the plant to break even that year for the first time, due in part to better export prices. The plant is operating far below potential capacity, but SMP claims it can sell all it can buy locally. However, the volume of the local catch is not large enough to allow SMP to commit itself to contract sales, which would ensure a larger and steadier flow of exports. SMP also has its own boats, and to increase supply, plans to purchase a larger shrimp trawler and collector vessel.

SMP also plans to expand domestic sales, but this hinges on the construction of a new buffer store in Mogadishu. Sales efforts by the Kismayo plant are generally hampered by poor communications with the outside world and poor roads to Mogadishu, which are sometimes closed during the rainy season. SMP plans soon to install its own satellite link for telephone and telex services.

Further information about the fishing sector in the region may be obtained from the FAO, the EEC, and GTZ/SMP. The FAO reports include: a "Terminal Report" for Somalia project number 75/008 dated 1984; Somalia Fisheries Sector: Issues and Strategies for Medium and Long Term Planning, dated March 1987 (No 32/87 GV-SOM 16); and another study on fresh water fishing in the Southern Jubba Region. The EEC has commissioned a study on fishing cooperatives and their organization. GTZ/SMP issue quarterly reports on SMP's activities throughout the country.

APPENDIX B:

COMMUNITY DEVELOPMENT THROUGH SELF-HELP

Abdirahman I. Farah

1. THE CURRENT SITUATION

The social and economic development of the people in the region depends in the foreseeable future on community-based action projects and programs, or what is commonly known as self-help (Iskaa-Wax-uqabto) schemes. This concept of community group work is not a new one in Somalia and can be traced back long before the recorded history of the Somalis, even though the new name was coined a few years before independence. Throughout the national territory, there are numerous examples of deep wells, wars, and mosques that were built and owned communally since time immemorial. Similar schemes are still being undertaken today by communities in every region.

In the Kismayo Region, a wide range of self-help schemes are in evidence, besides the traditional ones just mentioned. These include:

- construction and maintenance of rural roads
- construction of schools
- construction of government offices
- construction of Orientation Centers
- cleaning campaigns
- flood control activities
- operation and maintenance of WDA wells
- construction of wells

The rural population participate actively in these schemes, especially the traditional ones, where nearly all households are involved. The only assistance which communities occasionally receive for these activities comes from government agencies. But over the last decade or so, the contribution from these agencies, and the services offered by their staff, have been getting less and less. This is because the government's financial resources are becoming more limited; inflation has reduced the purchasing power of available funds; and the shortage of foreign currency has made it difficult to buy machinery, spare parts, diesel, and other farm inputs. For these reasons, the rural population of the area, consisting of farmers, herders, and fishermen, with extremely low incomes, are now facing many interrelated problems. The key ones are:

a. Floods

The Jubba River often floods during rainy seasons and this causes great damage and loss among small farmers. The damage to larger farmers and government agricultural projects is usually less, because they have heavy machinery to construct protective embankments. During the study period, a great river flood damaged roads and destroyed the crops of more than thirty villages along the river in Jamaame and Jilib districts.

b. Drought

At the same time that the floods occurred, the rest of the region was suffering from a drought due to the failure of the Gu' rains. This affected the productivity of both small farmers and herders, who had to move their animals to other regions, travelling long distances of 200-400 kilometers.

c. Lack of Potable Drinking Water

Most of the villages that were visited get their drinking water either from the river or from open wars. A few villages obtain water from boreholes, but only during the dry season when they are operating. The quality of the water used by villagers for drinking purposes is very poor, and they are often affected by waterborne parasites and diseases such as bilharzia. Malaria is also common.

People are not well informed about the need to protect water sources. Women and children, who do most of the water carrying, often do not realize the importance of keeping the surrounding area of the well clean. In villages with shallow wells, proper standards of hygiene are not maintained, and pumps are often not operating due to mechanical problems. In some villages a single well is not sufficient for the needs of all the residents, and this leads to long queues and much time spent waiting. In such cases, many villagers prefer instead to get their drinking water from the river, though often they do not recognize the dangers involved.

d. Lack of Irrigation for Agriculture

The productivity of many small farms greatly depends on rainfall during the main Gu' season, although, as was mentioned earlier, rain failures occur often, leading to poor harvests. Local farmers regard this as one of the biggest constraints to agricultural production, and in many villages they are willing to construct irrigation canals, if they can get assistance from the government or nongovernment agencies.

e. Shortage of Production Inputs

Local community leaders identified three inputs as being crucial for small farmers: credit, tractors, and pesticides.

i. Credit. Due to their low income levels, small farmers are not able to save enough cash to cover the expenses needed to farm their lands at the onset of rains. Many of them take work at plantations and other government projects in order to earn the money to feed their families and buy the basic inputs for farming. A farmer, his wife and children will work two to three days at the plantations and three to four days at their farm during the cropping season, which means only a small fraction of his land is cultivated. Only a very small percent of farmers are able to get credit from bigger farmers and businessmen, which they need to increase their productivity.

ii. Tractors and Bulldozers. Small farmers find it difficult to hire tractors to plough their land during the peak season of farming activities. There are several reasons for this. Most small farmers are not able to pay the high rental costs. The number of tractors in the area is not sufficient to meet demand, and they are available only in certain areas. Apart from the few owned by ONAT, most tractors are owned by private estates which need them for their own purposes at the crucial farming period. Much the same is true for bulldozers, which are needed for clearing new land for farming.

iii. Pesticides. The loss of crops from pests is a very common problem in the area. This is partly because pesticides are virtually unobtainable in almost all villages, but also because farmers lack the cash to buy them, and know little about methods of early identification and treatment. There are no extension agents to help them.

f. Lack of Human and Veterinary Drugs

Villagers and their animals are suffering from many diseases, but drugs to cure them are hard to find and expensive. Also there are few competent veterinary and health staff to provide advice on the their use. Animal dips were nonexistent in the villages visited, and instead, herders used buckets to treat their animals for ticks.

g. Poor Roads

The only all-weather road is the Kismayo - Jilib road. Many other roads in the area are seasonal and impassible during some periods in the rainy season. The worst are those from Kismayo to Afmadow and Badhaadhe which are closed for two to four months almost every year. This makes it difficult for villagers to travel to market, and to obtain farm inputs, while shortages of basic foods and other items from bigger centers tend to push up prices at these times.

2. PRECEDENTS AND POTENTIALS

Similar conditions exist in other regions of the country as well as in other developing countries. Government institutions with the assistance of international organizations, PVOs and NGO's, have tried out a number of community-based solutions to the problems of the rural poor. Of interest here are projects for potable water, irrigation systems, and production inputs.

a. Village Community Drinking Water Projects

From May 1984 onwards, the Catholic Relief and Development Agency (CARE) carried out a program to help village communities in the study area to improve existing wells and to dig new ones. This is a good example of what the people can do by themselves if they receive the technical assistance needed. CARE provided hand pumps, concrete rings, well covers,

roofing material, and technical staff, while the villagers dug the well themselves.

One of the problems encountered in this project is that people do not keep the surroundings of the well clean, and hence the water gets polluted and is no longer safe for drinking. It would be wise for similar projects to be coupled with public health care programs in order to raise people's awareness of the issues. Another problem is that some people are not ready to pay the minimal charges (e.g., 0.50 SoSh per ashma of water) for covering the costs and wages of the well-operators. A third problem arose at the beginning of the project from the use of poorly designed Austrian pumps which often were out of operation, though these were later replaced with an English mono-pump which is very hardy. WHO, UNICEF, SCF (U.S), OXFAM (U.K), CARE Somalia, and Haqabtir have had similar projects in other regions of the country, aimed at either improving existing wells, or digging new wells and berkeds. UNICEF, WHO, and CARE Somalia also include a hygiene component in their programs.

b. Irrigation Systems

CARE Somalia assisted village communities in the Hiran region with the construction of a six kilometer canal. The people provided all the labor and CARE assisted them with the heavy machinery and technical staff. The canal has been established for four agricultural cooperatives comprising 1080 members. The cooperatives had their own water pump and they are able to maintain the canal both technically and economically. Rehabilitation of old canals and the construction of new ones can be done in villages where people are organized and are willing to carry out these types of projects.

c. Production Inputs

The Somali Commercial and Savings Bank started a special credit program for the small farmers and it is now effective in the lower and middle Shabelle regions. The bank is planning to expand this program to other regions including the Lower Jubba. Euro-Action Accord also assists small farmers at Sablale in Lower Shabelle in getting farm inputs such as improved seeds, improved breeds of poultry, and credit. Their credit program is considered effective and sustainable. In the Bari Region herders are assisted by a French NGO in the construction of animal dips and in distributing subsidized veterinary drugs.

3. RECOMMENDATIONS

a. Selection of Communities

Experience from other places shows that the most effective way of promoting community-based initiatives is through successful demonstration models. It is, therefore, important to start with a handful of communities with the best chance of success, so that other communities may see what can be achieved. In selecting places to start, program organizers should seek villages which may already have experience with previous or ongoing

projects; where there already exists an active local organization, with a strong leadership, and the potential to get things done; or where villagers have already demonstrated strong commitment or motivation for a certain project, where perhaps they may already have formulated specific proposals, and started to mobilize resources. For example, some of the villages that suffered severely from the floods of 1987 may since have come up with feasible ideas for controlling flood waters, or minimizing future damage. Villages that have already identified a project which has strong community support would be obvious candidates for places to start.

b. Project Selection

Responsibility for selecting projects should be solely in the hands of the villagers themselves. They are the people that will ultimately have to live with the results, and if they support the project from the outset, there is greater chance for success. In selecting projects, therefore, the overriding consideration should be that the project is seen to be a top priority for the village, and is supported by the community at large.

In addition, several other criteria should be borne in mind. First, does the community have the resources to carry out the proposed project with minimum outside assistance? Second, can members of the community afford the initial costs, whatever they may be, in cash or in kind, as contributions of labor or materials? Third, can members of the community afford the subsequent costs for operating and maintaining the facility, after the initial construction has been completed? Fourth, will the project yield tangible benefits for the community, and not just for a few families, but for the majority? Fifth, will the project help to support local production activities, and contribute to raising household incomes in some way? Typical possibilities include dips, irrigation canals, farm to market access roads, and flood control works.

c. Community Capacity

Another important consideration is that there should be a high probability of completing the project successfully. Unsuccessful projects can do great damage by undermining the confidence of the community in their capacity to help themselves, and induce a greater dependency on outside sources for local development efforts. Successful projects, on the other hand, can build a community's faith and confidence in its ability to solve its own problems, and encourage a greater sense of independence and self-reliance.

This suggests that initially villagers should avoid large, expensive, or ambitious projects, and start instead with more modest proposals, requiring smaller resources. Success with a small project can spur motivation to go on to larger ones, building on the lessons and experience gained from the first efforts.

While rural communities are poor, the potential resources should not be underestimated. Obviously, poor rural communities cannot be expected to carry out big projects such as roads, and complex irrigation systems which need high technical skills and tremendous funds. However, communities can

provide both unskilled labor and semi-skilled labor; can contribute as much as 50-60 percent of the capital funds for relatively moderate projects; and can cover modest maintenance and running costs of bigger projects such as boreholes. But this only holds true for those activities that the community perceives to be useful, especially those that help to raise productivity and to generate additional household income.

d. Implementation

Community-based projects must be run by communities themselves. They have to take the initiative in the first place, and must assume the lead role throughout the implementation phase. If others assume these roles, the community's motivation and capacity for subsequently operating the facility or service will be undermined, and there is a risk that the project will gradually come undone for lack of local support and commitment.

This means that outside agencies, whether NGOs, PVOs, or from the government, must take a low profile in community-based development efforts. Their role should not be to lead development efforts, but to act initially as the catalyst in bringing latent community energies to life, and later on to provide support where requested. Most obviously, outside support is likely to be needed in providing technical assistance for the design of specific facilities, machinery and equipment for the construction of infrastructure, and perhaps additional finance where required.

Two of the hardest problems to resolve are: first, how to ensure that community efforts are sustained, and do not fizzle out after a period of initial enthusiasm; and second, how to encourage the widespread diffusion of similar activities among communities throughout the region. Three points need to be remembered here. First, start small, grow slowly, and build on success. Second, insist that the community assume the lead role at all times, and avoid the mistake of having outsiders try to push too fast and too hard. Communities must perceive that success or failure lies largely in their own hands, that they should not become dependent on the government or other outside sources. Third, government agencies should maximize the use of their own limited resources by supporting and building on community initiatives wherever they can, rather than trying to do everything themselves.

APPENDIX C:

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