Somalia Land Policies and Tenure Impacts: The Case of the Lower Shabelle

by

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Introduction

Land tenure in contemporary Somalia is in a state of transition. Most cultivated land and nearly all pastoral land is governed by customary land tenure arrangements. But, state leasehold tenure based on statutory law is becoming more widespread, particularly in Somalia's river valleys. Land legislation passed in 1975 officially transferred control of tenure rights on all Somali lands from traditional authorities to the Government of Somalia Democratic Republic (GSDR). Land registration procedures allow landholders to register limited amounts of land as state leaseholds, with usufructuary rights for 50 years, and renewable.

Twelve years later, in 1986, less than 5 percent of Somalia's land area had been registered. Land registration in early years was closely linked with GSDR programs aimed at establishing a modern corporate agriculture. Various GSDR laws and programs were passed in the 1970s that promoted the establishment of state farms, cooperatives and large private plantations under state leasehold tenure. Such policies have increased land concentration, displaced landholders, and increased tenure insecurity for remaining landholders without leasehold rights.

In more recent years, the strongest demand for state leaseholds has originated from private landholders, both large and small. Despite strong demand, limited government resources for administering titles, and biases in leaseholder selection have effectively resulted in title rationing. High costs of leasehold acquisition and complicated land registration procedures, give wealthier and better connected individuals a comparative advantage in acquiring leasehold title.

Security of tenure under traditional land tenure arrangements is weakening as state leasehold tenure usurps the rights of land governance from traditional authorities. Compared with the flexible land allocation mechanisms in customary tenure, state leasehold tenure is more restrictive. It limits landholdings to only one parcel of land, imposes high administrative costs on permanent transfers, discourages fallowing and other land-resting strategies, and is biased towards large corporate agriculture. Because of title rationing, state leasehold tenure has increased the tenure insecurity of non-leaseholders. Landholders not registering land face the risk of government expropriation. Farmers are becoming reluctant to temporarily lend or rent-out land for fear that it may be permanently claimed by the renter.

Conflicts between state leasehold tenure and customary tenure were relatively innocuous as long as demand for land remained low, and land resources remained relatively abundant. However, demand for land, particularly high quality land in Somalia's river valleys, has been rapidly rising because of four external factors: rampant price

inflation, foreign development assistance and capital development programs, foreign non-tariff barriers to Somalia's livestock exports, and increasing crop price relatives. While demand has been strong, the supply of higher quality land has become more inelastic, as land use is pushed nearer the limits of potential irrigable land in Somalia's river valleys.

This paper describes and evaluates the impacts of government land policies and macro economic forces on tenure security and agrarian structure. It first analyzes the institutional and economic forces that are increasing demand for land in Somalia's riverine areas. It then evaluates policies promoting the corporatization of agriculture in the 1970s, and land legislation establishing the basis for state leasehold tenure and land registration. Interim results from a Land Tenure Center study on security of tenure and land registration in the Lower Shabelle is then used as a case study of tenure impacts and conflicts between state leasehold tenure and customary land tenure arrangements.

Agricultural Economy

Low economic growth and dependence on foreign aid characterized the state of Somalia's economy, from 1960 to 1970, prior to its major land reforms. Somalia's economy, measured by GDP, grew at an average annual rate of 1.0 percent during the decade, while agriculture declined 1.5 percent per annum.[1] The average index of food production per capita in 1977-9 was only 85 percent of base 1969-71 productivity.[2] Food imports, largely food aid, represented 27

percent of merchandise imported value in 1960, and 25 percent in 1978.[3]

After a decade of reforms and economic adjustments in the seventies, agriculture reversed its decline in the early eighties. Between 1980 and 1985, food production per capita increased marginally while GDP in agriculture increased at an inflation adjusted annual rate of 8 percent.[4] Conversely, GDP in manufacturing and industry declined at average annual rates of 3 to 5 percent, while the service sector grew 4 percent annually. Food aid imports of cereals still averaged 248 thousand tons or about 45 kg per capita in 1984-5,[5] but food aid has been cut sharply by donors in more recent years.

Crop agriculture in Somalia has traditionally been a secondary activity in primarily a pastoral economy. Livestock production as a percentage of GDP averaged 32 percent over the 1982-6 period, compared with an average of 15 percent for crop agriculture.[6] However, growth in the crop sector appears to be outpacing growth in the livestock sector. Total area cultivated grew at an average annualized rate of around 4.5 percent between 1973-5 and 1982-4, while the size of cattle, sheep and goat herds grew around 1-2 percent per annum.[7] Capital investment in land, outside of the commercial irrigated areas, is limited. As illustrated by World Bank data, Somalia has one of the lowest fertilizer use rates in the world.[8]

If land quality was homogeneous and population was uniformly distributed, land accumulation and declining productivity would not be important issues, given Somalia's low rates of cultivation intensity

and input use. However, the supply of irrigable land is limited and highly inelastic at present rates of land use. Of Somalia's 866 thousand hectares of arable land in 1986, 11 percent was irrigated either by pump or gravity irrigation. With average annual rainfall of less than 430 mm, and poor soils outside of the riverine areas, there is a high economic premium for land with good access to irrigation water.

Demand for Land Resources

Demand for higher quality land has continued to strengthen despite growing land scarcity in Somalia's river valleys. Government land policies, described in the following section, provide investors with the means to acquire land. But, four external factors have increased the utility of holding land, and increased effective demand: price inflation, international trade restrictions on livestock exports, foreign development assistance and capital investment, and improved grain to non-grain price ratios.

High price inflation discourages investors from holding financial assets, and increases the incentive for holding land or commodities (e.g., gold or livestock). Price levels, as measured by the GDP deflator, rose at an average annual rate of 10 percent over the period 1965-80, and in excess of 45 percent annually between 1980-5.[9] Based on a 14 percent nominal rate of interest on bank deposits in 1985,[10] financial assets in real terms would have yielded a 31 percent negative annual return. The financial collapse of banks in late 1987 further increased investors' concerns about the safety of

bank deposits and the transactions cost of dealing with banks with uncertain financial reserves.

Saudi Arabia's 1983 import embargo on livestock from Somalia, pending GSDR implementation of appropriate vaccination and quarantine measures, has severely curtailed livestock exports and foreign exchange earnings. Livestock exports, which averaged 83 percent of total export earnings in 1981-3, fell from $106 million in 1982 to $35 million by 1984.[11] The fact that Saudi Arabia was by far the dominant buyer of Somali cattle exacerbated economic losses. Somalia has since found other trading partners (Egypt), but exports have not yet regained pre-embargo levels. Assessing economic impacts of the embargo is difficult due to poor and limited data. But quarantine and export restrictions will reduce economic returns in the livestock sector, and encourage some shift in human and capital resources to crop agriculture.

Public investment in river basin development and land-intensive technology has increased the supply of irrigated land, and increased investors' expectations of economic returns. Official development assistance, consisting of loans and grants received from donors on a concessionary basis amounted to $354 million in 1985 ($65/capita), or 14.5 percent of GNP.[12] About 132,000 hectares of land on the Shabelle river are now under irrigation. Two-thirds of this area is irrigated by canals from 7 barrages (3 of which have been constructed since 1980), and one-third from an estimated 330 pumps that draw water from the river.[13]

An increase in the relative price ratio of grains to non-grain commodities in the early eighties effectively increased economic returns to cereal agriculture, thereby increasing the derived demand for arable land. Prior to 1982, farmers were required to sell their crops to the state cereals marketing agency (Agricultural Development Corporation) at artificially regulated prices that were 6 to 8 times lower than parallel market prices.[14] In 1981, official prices of sorghum and maize were increased 50 percent and ADC's monopoly powers were eliminated. Between 1980 and 1985, official maize prices increased over 100 percent in real terms.

Cropped area has expanded rapidly as an outcome of these factors. Based on the five year period spanning 1979-81 to 1984-6, total area harvested expanded at an annualized rate of 3.6 percent (on a base of 798 thousand ha). As for individual crops, sorghum area declined at an annualized rate of 1.3 percent (478 thousand ha), while maize area grew 15.8 percent (151 thousand ha) per annum. Area under bananas (3.4 thousand ha), Somalia's most important export crop behind livestock, rose at an annualized rate of 9.8 percent. Yet, in 1986, the area under cultivation represented only 1.4 percent of Somalia's total land area, compared with 13 percent considered to be potentially arable.[15]

With price liberalization has come a gradual shift of human and capital resources into crop agriculture. Existing farmers, lacking inputs and land intensive technology, have tried to expand their land holdings, while businessmen and state officials claimed farm land in less developed areas along the Shabelle.[16] Investment opportunities

in other sectors, such as banking, agri-business and industry declined as a result of excessive government regulation and control. Somalia's burgeoning urban population turned to farming for income, and farmland for investment, giving rise to a large absentee class of land holders. Munzinger et al. observed a considerable increase in absentee landlords in two villages on the Lower Shabelle, many being traders investing their profits in farmland.[17]

These structural adjustments raise two key questions with respect to land policy and land legislation. First, how has state land legislation exacerbated or facilitated land use planning and resource management in agriculture? Second, to what extent has land legislation provided for secure individual or community property rights in land?

Land Policy

Somalia established its first formal land tenure policies under the colonial regimes of the British in the north and the Italians in the south. Britain established its protectorate in northern Somalia between 1884 and 1886. The Italians consolidated their control in southern Somalia between 1889 and 1905. Two decrees under the Italian regime formulated southern Somalia's first official land tenure policies. Royal decree 695 of June 8, 1911 and the Governor's decree 815 of January 19, 1912 collectively established the Italian State's right of sovereignty over vacant lands (i.e., those lands in excess of the current Somali populations present and future needs) and its right to issue agricultural concessions out of state domain for

Italian citizens or others of foreign nationality. From the early 1900s until independence in 1960, large tracts of land along the Shabelle were appropriated for concessionary development and large-scale private production of bananas and sugar. Land tenure reforms were later drafted by a special commission in 1965, but were never passed by Parliament.

Following the socialist revolution of October 1969, the new government announced a series of agrarian reforms aimed at stimulating growth and economic development. Between 1970 and 1976, the government passed as many as 22 laws regulating the agricultural sector.[18] Among the more important land policies were: the Law on Cooperative Development of 1973, which established the legal basis for farm cooperatives; the Agricultural Crash Program of 1974, which established a program for temporarily allocating land to government employees and students from agricultural training colleges; the Agricultural Land Law of 1975, which established the state leasehold system of land tenure for the country; and the Agency for Resettlement and Community Projects of 1976, which gave the government authority to settle nomads and refugees on lands in riverine areas.

According to Robleh and Hussen, the reforms were intended to enhance agriculture's growth and prominence in the economy, tap Somalia's under-exploited base of land resources, increase resource efficiency, and reduce the country's dependence on food imports.[19] However, Laitin saw the purpose of the land reform as replacing an archaic system of communal tenure and nomadic pastoralism with one more economically productive and less destructive of the land.[20]

GSDR planners at the time perceived that common ownership was environmentally degrading, that nomadic pastoralism was unproductive, and that traditional institutions were inefficient and outmoded. Regardless of the motives, the reforms set forth to: (a) place control of land in the hands of the state; (b) draw population into new occupations (settled farming); and (c) substitute modern institutions of production and marketing for traditional forms.[21]

Policy makers saw the solution for Somalia's agricultural decline in modern corporate structures. The GSDR openly promoted the establishment of state farms, cooperatives and large private farms under the rubric of agricultural modernization. By 1979, there were 233 group cooperatives controlling an area of nearly 35 thousand hectares, and 48 multi-purpose cooperatives with over 32 thousand hectares. In 1984, government state farms controlled over 45 thousand hectares in the Shabelle valley, and nearly 25 thousand hectares in the Jubba.[22] Areas reserved for the Crash programs contained 20 thousand hectares, and resettlement schemes another 27 thousand hectares. Land legislation grants state farms and cooperatives preferential rights regarding land size restrictions and ease of access in leasehold acquisition.

Agricultural Land Law

The Agricultural Land Law of 1975 and subsequent decrees are the principal statutes that govern state leasehold tenure (Annex 1). According to this law, all land resources are owned by the state. Responsibilities for management of land resources and the authority to

allocate land are under the direct jurisdiction and control of the Minister of Agriculture. The Minister may issue concessions (leaseholds) on land for agricultural purposes to cooperative societies, state farms, autonomous agencies, local government bodies and private individuals or companies.

Since all land is owned by the state, individuals with registered leaseholds are tenants of the state with certain rights and restrictions. Land registration is compulsory. Any person who did not register land holdings within 6 months following the law's enactment lost all state recognition of personal use rights. All land holders, excluding cooperatives and state farms, must voluntarily apply for a variable term lease 50 years in duration, and renewable. An individual or family may obtain only one lease per household. Total land holdings are restricted to ceilings of 30 hectares of irrigated land and 60 hectares of non-irrigated land. Ceilings for banana plantations are raised to 100 hectares, and waived entirely for cooperatives, state farms, private companies and autonomous agencies. Registered leaseholds cannot be bought, sold, leased, rented, or mortgaged (rights may be transferred if the lessee is incapacitated or dies), although these restrictions have been relaxed in recent legislation.[23] The government may repossess land that exceeds size restrictions, is used for non-agricultural purposes, is not used productively, is unnecessarily fragmented, or is not farmed for two successive years.

A 1987 circular from the Ministry of Agriculture (MOA) revised the registration process.[24] According to the circular, an

individual wishing to register a parcel must write an application letter to the district Agricultural Officer (DAO) of the MOA. The DAO is then supposed to post a notice of the application at the district Party Secretary's office, the district Commissioner's office, the Police Station, the district MOA and the village center. After 30 days, a committee made up of the Department of Land and Water Resources (DLWR) district officer, a district policeman, the chairman of the local village committee, the applicant, and a draftsman is responsible for adjudicating the claim, marking boundaries, and drafting a map. The DLWR officer and the policeman each write a report to their superiors stating farm location, area, soil type, present use, and tenure status. The DAO sends a report to the Party Secretary for approval.

A district registration number is assigned and all previous reports, the map and the original application are forwarded to the Regional Agricultural Officer (RAO) for approval and issuance of a regional registration number. The RAO is responsible for taking the documents to the director of DLWR of the MOA in Mogadishu. The director checks the application for conflicting claims before sending the file to the Minister of Agriculture for signing. All leaseholds must then be approved by the Minister. Once signed, the registration procedure is complete, and copies are returned to the landholder and various DLWR offices. The registration process may also start at the national level by an individual or cooperative seeking land. In this case, a letter is written to district or regional agricultural coordinators, directing them to find unregistered land for the applicant.

One of the Land Law's most striking features is that it does not recognize the customary rules and procedures of the indigenous institutions that still govern access to land and pasture.[25] Pastoralists are given no tenure rights. Noncompliance with the provision requiring immediate registration has resulted in a large class of landholders without legal rights to land. The 2 year provision on idle land, resulting in state expropriation, places a strong bias towards permanent cultivation, and against conservation. A number of studies mention an increase in unnecessary forest clearing in the Jubba valley by registered landholders.[26] Preferences are given to cooperatives and state farms regarding size of leaseholds, number of leaseholds, and term of lease.

Manipulation of registration procedures is common.[27] It is generally accepted that personal connections and unofficial gratuities are essential to obtain a lease. Farmers may register different landholdings under different kin members' names. Groups of farmers sometimes pool money and register a block of land under one farmer's name, despite the apparent risk of losing their land. Individual(s) may form a company which is not subject to size restrictions, and use formal leasehold statutes to claim unregistered land. The MOA, on the other hand, is not equipped to detect multiple leaseholds registered under different family members' names, or to prevent a speculative land market.

State Leasehold Tenure

By 1986, 11 years after passage of the Land Law, GSDR land registry offices had cumulatively issued 12,561 titles, covering 256

thousand hectares nationwide (Annex 2). This area represents 0.5 percent of Somalia's total land area, and 39.3 percent of area cultivated. Land registration has been quite active in rainfed areas in the north, measured by number of leaseholds. But in area terms, registration has been most active in the river valleys, particularly on irrigable lands. Over 75 percent of all registered land is listed as irrigable, meaning it is within close proximity to a river, but is not necessarily irrigated.

Districts along the Shabelle river, with the closest access to the capital city Mogadishu, have the highest proportion of land area registered. In the Middle Shabelle, 2.7 percent of total land area was registered in 1986, including 1,474 farms averaging 38 ha/farm. Further downstream in the more commercially developed Lower Shabelle, 5.3 percent of the total surface area was registered, including 3,361 farms averaging 43.5 ha/farm. These averages, however, are deceiving. As will be seen shortly, landholdings vary from a few hectares to several hundred in size.

Registered farms tend to be large units, usually with state or cooperative affiliation. Leaseholds averaged 27 hectares per farm nationally in 1986 compared with an average of 3 hectares for all farms, registered and unregistered. Registered farms in the upper Shabelle (Hiraan), Middle and Lower Shabelle, and Middle and Lower Jubba districts average between 30 and 50 hectares. Fadal et al. estimate that 18 percent of registered areas in 1984 were controlled by state farms, 5 percent by the Crash Programs, 7 percent by resettlement schemes, 19 percent by Cooperatives, 5 percent by medium

scale private farms (20 to 200 ha), and 46 percent by small scale farms.[28] Medium scale private farms, mostly banana plantations, are probably the most productive as Somal-fruit provides the necessary inputs and marketing for banana production.

The Land Law and Cooperative Development Law have provided local officials, private traders, and urban based speculators with the official credentials to acquire land. A large number of companies applied for leaseholds on unregistered irrigable lands immediately after liberalization. Establishment of state and cooperative farms has increased the area under corporate agriculture. However, it is less clear to what extent these corporate entities have actually increased cultivated area. Since the most fertile areas were already settled, the establishment of state and cooperative farms on the best land in many cases resulted in the displacement of existing landholders and crop cultivators. Small farmers, lacking financial resources, unfamiliar with land registration procedures, or unaware that their customary rights were no longer valid, frequently found themselves displaced by corporate agriculture.[29]

The GSDR has moderated its stance toward state and corporate farming in recent years. Despite preferential access to machinery, fertilizer, seed and labor, state farms have not proved to more efficient or productive.[30] In their work in the Lower Shabelle, Roth et al. observed state and cooperative farms that were under-capitalized, severely lacking in human and technical resources, and poorly managed.[31] Lack of capital and poor management is now forcing many corporate enterprises to revert back to private land

holdings. Most of the land in Crash programs and some of the land in resettlement areas and cooperatives has now been redistributed to private farmers. In the more densely settled Lower Shabelle, labor scarcity has motivated large corporate enterprises into land sharing contracts with laborers to ensure a stable labor supply.[32]

While state policies promoting corporate agriculture have begun to wane, a new set of conflicts between state leasehold tenure and traditional tenure has emerged. Low land/labor ratios in the past helped to minimize conflicts between state and traditional systems, and the effects of labor displacement. Increasing population densities and growing land scarcity in the valley have acted to sharpen the incompatibilities and conflicts between the two systems. These conflicts are becoming increasingly apparent in the Lower Shabelle.

Land Tenure in the Lower Shabelle

The Shalambood research site (SRS) consists of a rectangular 8,500 hectare area on the Lower Shabelle river at the heart of Somalia's most important food and export crop producing region. The Genale dam, constructed by the Italians in 1926, rests at one corner of the scheme. The town of Shalambood, with a population of 22,240, is located on the opposite corner. Enclosed within these boundaries are 63 formerly Italian-owned aziendas. Since the departure of the Italians, landholdings have been transferred to small holders, state owned farms, state cooperatives, or large private farms. Irrigation water for the scheme comes from the Genale barrage. Water is

distributed by gravity flow through a web of primary, secondary, and tertiary canals.

The Land Tenure Center conducted a research program on tenure security and land registration in the SRS from January 1987 to September 1988. The program consisted of two phases: a small sample survey carried out in conjunction with an AID funded project studying the scheme's potential for agricultural rehabilitation in early 1987; and a subsequent in-depth survey of roughly 150 farmers in the area. The data presented in this paper are from the pilot study in phase one. A formal questionnaire was administered to a randomly selected sample of 56 small farmers on the scheme. Informal structured interviews were also held with large and small farmers and local authorities to develop a broader profile of resource access, use, and allocation in the SRS.[33]

Land Concentration

As illustrated in Table 1, land distribution is skewed towards large state, cooperative and private farms. Of approximately 8,500 hectares comprising the scheme, 20 percent of the land area is controlled by independent smallholders, 14 percent by agricultural cooperatives, 14 percent by large group cooperatives, 26 percent by Crash program farms, 10 percent by state farms, and 16 percent by large private farms (in excess of 30 hectares). Large private farms, including one farm belonging to the Palestinian Liberation Organization, range in size from 30 to 300 hectares, with average land holdings of 96 hectares/farm. Group cooperatives average 240

Table 1:
Land Concentration and Average Land Holdings,
Land Tenure Profile, Shalambood Study Area

	Number of Farms	Total Area Controlled (ha.)	Avg. Area Per Farm (ha./farm)
Independent Smallholders[a]			
Surveyed areas with complete data	1,386	1,390	1.0
areas with incomplete farm data		290	
Smallholder Ag. Cooperatives			
Ispahaysi cooperative	800	950	1.2
Dayax cooperative	48	60	1.3
Matrico cooperative	159	158	1.0
Large Group Cooperatives			
National Petroleum cooperative	2	690	
Charcoal cooperative	2	458	
Building and Public Transport coop.	1	50	
Sample average			239.6
Crash Program Areas		2,285	
State Farms			
AFMET Demonstration farm	1	400	
Kamiro, MOA Ag. Strengthening farm	1	100	
Prison farm	1	310	
Police farm	1	60	
Sample average			217.5
Large Private Farms	14	1,342	95.9
Total		8,543	

a. 'Surveyed' means that land areas were verified by data collected by either: (a) the Land Tenure Center; (b) Tippetts, Abbett, McCarthy and Stratton, "Genale Irrigation Rehabilitation Project: Feasibility Study, Annex I, Natural and Human Resources," Washington, September 1986; or (c) Richard McGowan, Larry Johnston, Alfred S. Waldstein, Gus Tillman, John Speed, "Irrigation Water Lifting in the Shabelle Water Management Project," Associates in Rural Development, Burlington, Vermont, 1986. Remaining areas were inferred from maps of the area, but number of farms are unknown.

Source: Michael Roth, Harry Lemel, John Bruce, and Jon Unruh, An Analysis of Land Tenure and Water Allocation Issues in the Shalambood Irrigation Zone, Somalia, Madison: Land Tenure Center, University of Wisconsin, March 1987.

hectares, and state farms, 218 hectares. Small farmer holdings, including independent farmers and members in agricultural cooperatives, average 1.0 to 1.3 hectares.

The term cooperative, implying a group of individuals taking collective action on input procurements, selling, or cropping decisions, is misleading in the SRS context. The National Petroleum Cooperative operates as a firm without members. Profits go to the National Union of Cooperatives (NUC). The Charcoal Cooperative operates as a limited partnership. Its 114 members invested equal contributions of capital to finance the development of the farm. Profits are shared equally with a fixed percentage going to the NUC. The Public Transport and Building Cooperative also operates as a limited partnership formed by members of the building and trade professions. Starting with 1000 hectares, the cooperative has since shrunk to 50 hectares because of poor management and inadequate capital. The remaining land was transferred to 800 smallholders comprising the Ispahaysi agricultural cooperative.

Agricultural cooperatives are distinguished from other institutions by their small farmer membership. Cooperatives are mandated to assist smallholders with fertilizers, pesticides, seeds, and mechanized services. But lack of capital severely constrains the amount of inputs provided. Many farmers is such cooperatives believe that the land is theirs. However, management maintains that the land is held by the cooperative, and not by member farmers. Farmers with cooperative land have security against outsiders' claims, and are spared the costs and inconveniences of individual registration. Some

farmers have expressed their preference for individual leaseholds to control their own destiny, and due to the possibility, however slight, of being expelled and losing their land. Despite the latter risk, expulsion from cooperatives is quite rare in the SRS.

Large commercial farms, state and private, normally reserve land for the personal use of permanent and seasonal farm laborers. Although laborers lack individual leasehold rights, evictions are rare. The fact that land-sharing is prevalent is suggestive of labor scarcity, and the high premiums large farms are willing to pay to recruit and keep good workers. While the amount of land given as payment varies from farm to farm, farm laborers generally receive between 0.25 and 1.0 ha per worker. Approximately 16 percent of the 3,410 ha held by large commercial farms are cultivated by these farms' laborers for personal use.

Smallholder Land Tenure

Smallholders in the LTC sample include both individual landholders and those from the agricultural cooperatives. Land holdings average 2.2 hectares (Table 2), about twice the average for the SRS (Table 1). Land holdings are fairly uniform, although women tend to hold fewer parcels and less land. Despite the Land Law's restrictions of one parcel per household, multiple parcel ownership is common. Twenty-five percent of farm respondents held 2 parcels of land, while 7 percent held 3 or more parcels. Several factors help explain multiple parcel ownership: (1) land fragmentation has reduced land holdings to below subsistence needs, requiring land acquisition;

Table 2:
Land Tenure Characteristics, Smallholder Sample, Shalambood Study Area

	Male Respondents	Female Respondents	Total Respondents
Number of Respondents	44	12	56
Total Family Size	9.0	6.5	8.3
Farm Size Distribution (Farms):[a]			
0.0 to 0.99 ha	6 (14)	5 (42)	11 (20)
1.0 to 1.99 ha	19 (43)	6 (50)	25 (45)
2.0 to 4.99 ha	11 (25)	1 (8)	12 (21)
5.0 ha plus	8 (18)	0 (0)	8 (14)
Mean Average Farm Size (Hectares)	2.61	0.87	2.24
Number of Farms With:[a]			
1 parcel	27 (61)	11 (92)	38 (68)
2 parcels	13 (30)	1 (8)	14 (25)
3 or more parcels	4 (9)	0 (0)	4 (7)
Average Parcels Per Household	1.5	1.2	1.4
Average Years Parcel has been Held[b]	18.2	13.8	16.0
Main Parcel was Acquired By:[a,b]			
Inheritance	6 (14)	4 (34)	10 (18)
Settled from unclaimed land	8 (18)	3 (25)	11 (20)
Bought	5 (11)	1 (8)	6 (11)
Allocated by the Govt following failure of the Crash Program	4 (9)	3 (25)	7 (12)
Allocated by the Govt after departure of Italian owners	21 (48)	1 (8)	22 (39)

a. Figures in parentheses are percentages of total respondents in each category.

b. Figures for parcel acquisition refer to the main parcel only, thus data may underestimate the incidence of acquisition by transactions.

Source: Michael Roth, Harry Lemel, John Bruce, and Jon Unruh, An Analysis of Land Tenure and Water Allocation Issues in the Shalambood Irrigation Zone, Somalia, Madison: Land Tenure Center, University of Wisconsin, March 1987.

(2) farmers have 2 or more parcels along several canals, as a risk management strategy to ensure access to scarce water supplies; (3) land inheritance; and (4) investment motives.[34]

Restrictions on multiple parcels in the Land Law appear to be aimed at curbing land fragmentation and excessive land accumulation. While fragmentation is problematic, there is no empirical evidence in the SRS context that productivity has declined as a result. Worries about land accumulation are unfounded. With an average of 2.2 hectares and 1.4 parcels, farm sizes are considerably below the 30 hectare ceiling imposed by law.

Farmers are very reluctant to disclose parcel information. Subsequent LTC research has revealed that at least half the farmers interviewed falsely report the number of parcels they hold. Substantial welfare losses can result if multiple parcels are disclosed and enforcement of legal provisions leads to state expropriation of land. Farmers are faced with a dilemma. Not registering a parcel can result in loss of land to outsiders seeking leaseholds. Conversely, an individual with multiple parcels faces increased government scrutiny when registering one parcel, thus increasing risks of losing the remaining land. Some farmers circumvent this restriction by registering land in the names of family members or close kin.

Land Transactions

The Land Law restricts transactions in land, vesting the state with full authority for land allocation. Arguments that these

provisions help curb land speculation and private land concentration have some merit, but such restrictions also impose economic inefficiencies. Land transfers in the SRS setting increase allocative efficiency in three ways: (a) by increasing the mobility of land resources from labor scarce to labor abundant households for seasonal and annual land needs; (b) by permitting the transfer of resources from less efficient to more efficient users; and (c) by responding to changing land needs brought on by the household cycle. A transition occurs in the household economy, from buying and renting-in of land during early stages of the household cycle when the family is growing, to land sales and renting-out in the tertiary stages when the family is maturing.

Land settlement patterns in the SRS are relatively long standing (Table 2). Nearly 45 percent of the sample had cultivated their main parcel for 20 or more years; the sample average is 16 years. Of the 56 respondents in the survey, 18 percent acquired their main parcel through inheritance, 20 percent claimed land from unused areas, 11 percent bought the parcel, 12 percent were allocated the land after the failure of the Crash program, and 39 percent had been allocated the land by the government after the Italians left (Table 2).

Although some farmers admit to renting, purchasing and selling land, there is no way of knowing precisely the extent of land transactions among families, neighbors and friends. Land sales are universally acknowledged. Thirteen percent of respondents had at some time acquired land through direct purchases (Table 3). One land sale was reported. Results also show that none of the respondents in the

Table 3:
Land Transactions, Smallholder Sample, Shalambood Study Area

	Male Respondents (n)	(%)	Female Respondents (n)	(%)	Total Respondents (n)	(%)
Number of Respondents Who Have ever Bought Land[b]	6	(14)	1	(8)	7	(13)
Why was Land Bought:[a]						
Land was a good investment	6	(100)	0	(0)	6	(86)
Wanted better quality land	0	(0)	0	(0)	0	(0)
Wanted to control own farm	0	(0)	0	(0)	0	(0)
Previous land was inadequate to meet family food needs	0	(0)	0	(0)	0	(0)
Not able to respond	0	(0)	1	(100)	1	(14)
Number of Respondents Who Have Ever Sold or Given Away Land[b]	1		0		1	(2)
Number of Respondents Renting-Out Land:[b]	0		0		0	(0)
Number of Respondents Renting-In Land:[b]	3		1		4	(7)
Terms: Number paying cash	3		1		4	(7)
Number paying in-kind	0		0		0	(0)

a. Values in parentheses indicate percent of those who bought land.

b. Values in parentheses indicate percent of total number of farmers surveyed (i.e., 56).

Source: Michael Roth, Harry Lemel, John Bruce, and Jon Unruh, An Analysis of Land Tenure and Water Allocation Issues in the Shalambood Irrigation Zone, Somalia, Madison: Land Tenure Center, University of Wisconsin, March 1987.

sample said they rented-out land in 1986, although 4 farmers rented-in land. Since land disputes often stem from rental arrangements, farmers are reluctant to fully disclose their transactions in land.

As demand for land resources has grown, land access has become more restrictive for farmers and their children. All unused areas of the scheme are now claimed. Permanent cropping is pervasive. Farmers would like to buy land, but according to one farmer, land prices have soared, rising from SoSh 2,000/ha of land 10 years ago, to SoSh 60,000 today (SoSh 100 = $1). In such an inflationary environment, it is not surprising that 6 out of the 7 respondents who had ever bought land, did so because it was a good investment (Table 3). Children of some settled smallholders are reportedly leaving farming in the area because of land scarcity. Sometimes land is found in more land abundant areas outside the scheme, although land prices are rapidly growing beyond the means of younger farmers. A combination of acute land scarcity, limited financial resources to acquire land, and succession leading to uneconomical size of land holdings, is forcing offspring to more and more seek non-farm forms of employment, or to return to nomadic life.

Tenure Security

Unregistered land is more often involved in disputes than registered land, and disputes over ownership rights are more preponderant than boundary disputes. While only 9 percent of farmers in the sample reported ever having had any form of land dispute, 25 percent of all farmers perceive that land disputes are becoming more

common in the SRS. The most serious land disputes are in frontier areas.

Land disputes normally originate from three sources. One, disputes frequently arise from rental arrangements in which a renter refuses to hand back unregistered land to the rightful landholder at the end of the rental term. Since idle land is perceived to be unproductive and/or not needed by the landholder, the provision in the Land Law that bans both land transactions and leaving land idle increases the risk of renting-out land. Farmers are particularly wary of renting-out for periods longer than a year, perceiving that the risk of losing the land increases with the rental term.

Two, disputes arise as a result of legal provisions declaring that land left unused for 2 years is considered abandoned. While Riddell maintains that this provision will reduce land speculation by absentee investors, Gunn questions the adverse impacts of such policies on fragile soils due to permanent cropping.[35] Arid zone farming requires fallow, in the absence of manure or fertilizers, to maintain fertility. Unless 'land use' is redefined to encompass fallow and fodder crops, long term dependence on costly inputs or a decline in agricultural productivity is imminent.

A third class of disputes involves official documents issued in Mogadishu that either assign leaseholds directly to individuals, or serve as directives to regional officials to locate unregistered land for someone. Long term land holders are being displaced from their lands by urban land speculators acting individually or as part of a

group cooperative. Local small farmer representatives rank land grabbing the most serious problem small farmers face, even above irrigation issues.

Tenure insecurity is a more serious concern on more productive lands, usually those with better access to irrigation water. In a scheme where all lands are reached by irrigation canals, 11 percent of respondents received no irrigations, 46 percent received one irrigation, 35 percent received two or more irrigations, while 9 percent did not cultivate in the 1987 Gu (heavy rains) season. In the 1987 Deyr (light rains) season, 53 percent of farmers in the LTC sample received no irrigations (and could not plant), 40 percent received one irrigation and only 7 percent received 2 or more irrigations. Substantial disparities in yields exist between parcels with good and poor access to irrigation water. Maize yields on land receiving 2 or more irrigations during the 1985 Gu season averaged 13.6 quintals/ha, compared with 7.0 quintals/ha on land with one irrigation or less.

The largest farms, usually registered, have land closest to the primary canal with the best access to water. Water flows are not metered or directly priced according to usage. However, farmers indirectly contribute labor or cash for clearing irrigation ditches (water is free by Islamic custom, although levying charges for such services as drawing or delivering water is permissible). Water on smallholder lands is rationed by water users associations, but these groups have only limited effectiveness in controlling water off take by larger commercial enterprises.

Since economic costs of water are low, the largest farms use as much as they wish, operating near or at the top of their yield response function to water. Small land holders with farms on the periphery, with poor access to irrigation water, often express no insecurity because land value is too low. Farmers with the least secure land holdings tend to be those located in areas with moderate access to water and with the largest potential production response if irrigation capacity is improved.

Land Registration

Despite the appearance of high tenure insecurity, few independent farmers have obtained formal leasehold status. Of farmers in the LTC sample, 29 percent had land registered under an agricultural cooperative. Sixteen percent claimed to have individual title to their primary parcels. Upon closer inspection, fewer than 5 percent of farmers actually held leases. Farmers claimed that land was registered on the basis of paid land tax receipts, or court summaries of land disputes decided in their favor. An additional 7 percent were in the process of registering their land.

If tenure security is so important to small farmers, why haven't more registered their lands? Among LTC survey respondents who were not registered or in the process of registering, 33 percent cited high costs, 17 percent mentioned lack of familiarity with registration procedures, 21 percent mentioned complicated procedures, while 9 percent said the parcel was simply too small. Only 6 percent felt there was no need to register land.

Costs of registration are a sticky problem. Although the registration procedure only requires a farmer to go to the district office, farmers report making countless trips to various regional and national offices to ascertain the status of their file, incurring expenses for transportation and lodging. Charges for drafting a formal map of the site reportedly can cost as high as SoSh 10,000, due to limited drafting services in rural areas. Low government pay scales are problematic. At salary levels of $20 to $30 per month, there is an incentive for civil servants to extract a portion of the high economic rent associated with leasehold title.

Conclusions

The agricultural land law of 1975 officially brought all Somalia's land resources under state domain. Individual landholders and organizations could obtain usufructuary rights to a parcel of land for 50 years, and renewable. Initially, government programs to modernize agriculture through corporate forms of management spurred the spread of state leasehold land. Such policies encouraged higher land concentration ratios, and the spread of corporate forms of management. But, it is questionable whether such policies resulted in expanded area cultivated or improved productivity. Since many of the most fertile areas were already settled, the establishment of state and cooperative farms on the best land in many cases resulted in the displacement of existing landholders and crop cultivators. Productivity of such farms has also been poor due to lack of capital and poor management.

Individual rights to land under customary tenure were disallowed with passage of the land law. As long as demand for land remained low, conflicts between state leasehold tenure and customary tenure remained at a minimum, confined primarily to the most fertile and accessible land in the river valleys. However, four factors have increased the utility of holding land, and increased the effective demand for land resources: rampant price inflation, international trade restrictions on livestock exports, foreign development assistance and capital investment, and higher crop to livestock price relatives.

The state leasehold process has provided investors and speculators alike with the means to obtain currently untitled land. Such policies were relatively innocuous, as long as land resources remained abundant. But, irrigation development on the Shabelle is rapidly reaching full potential, while demand for land continues to strengthen. Land prices have soared, land speculation and land grabbing have become prevalent, and the tenure security of non-leaseholders has weakened. Development of the valley has presented landholders with increased investment opportunities, but it has also exposed them to market fluctuations and resource dislocations.

The Land Law, despite its best intentions, has alienated farmers from their lands, and left them with little legal recourse for securing their tenure rights. Some farmers have not registered their lands because land resources do not merit leasehold title, or the modern world and state leasehold tenure have not yet encroached on the domain of customary tenure. Others have not sought formal title

because costs are high, procedures are too time consuming, or multiple parcels restrict registration. By failing to abide by the registration code, farmers face the risk of land expropriation. While farmers in rural areas perceive the process of acquiring state leasehold tenure as too expensive, bureaucratic and cumbersome, procedures are easier for urban land seekers who are more accustomed to bureaucracy, and wealthy farmers who are better connected. These groups have been able to legally acquire state leasehold land in prime agricultural areas under the auspices of progressive reform.

Land grabbing and land disputes cannot be ignored. The land law is responsible for permitting, even encouraging, land grabbing to take place. Policy makers bear some blame for not foreseeing the land conflicts that would arise, and for failing to enforce the tenure rights of landholders based on long term use rights. However, the GSDR cannot be entirely faulted. Running a system of land registry offices at district, regional and national levels imposes high recurrent costs on its budget and strains the capabilities of its skilled manpower. Compliance with land registration programs is thus voluntary, relying on individual participation to bear the high costs of implementation. Because of limited resources, titles are rationed, explaining why smallholders wanting to register land are unable to do so, while wealthier and better connected farmers are able to pay the higher rents.

However, one must question whether the state leasehold system has longer term benefits to offer, or even whether the country would be better off without it. This point is debatable. Certainly the state

leasehold process has led to landholder displacement and increased tenure insecurity. But, one cannot ignore the market changes that are occurring in the Somalia economy, and wonder whether tenure insecurity might result even without GSDR intervention. In an Africa affected by debt crises, tariff and non-tariff trade interventions, structural adjustment programs, price reforms, foreign development assistance and capital investment programs, one can no longer assume that the long-term adaptability and resiliency of customary tenure will automatically withstand such change.

Does land legislation provide the necessary legal criteria for sound land use planning? Modernization has entailed significant economic and social costs in terms of resource dislocation. Restrictions on number of parcels overly constrain the number and area of state leaseholdings of private individuals. Only one leasehold is allowed and for smallholders this is an onerous restriction. The law imposes restrictions on land transfers, mortgaging, and use rights. It provides disincentives for cultivating fodder and fallow crops while encouraging permanent cultivation and deforestation. The law does not accommodate property rights issues on range land; nor does it allow for land reserve, either for parks or conservation. The number of concerns raised here, and the economic and structural changes taking place in Somalia today, indicates that the time may now be right for a reform of land policy and land legislation.

FOOTNOTES

1. World Bank, Accelerated Development in Sub-Saharan Africa, An Agenda for Action, Washington, D.C., 1981, p. 144.

2. Op. cit., p. 143.

3. Op. cit., p. 151.

4. World Bank, World Development Report 1987, Washington, D.C., June 1987, p. 204.

5. Op. cit., p. 212.

6. Government of Somali Democratic Republic, Ministry of Agriculture, Yearbook of Agricultural Statistics 1986/87, Mogadishu, Somalia, June 1987, p. 33.

7. Peter Conze and Thomas Labahn (eds.), Somalia: Agriculture in the Winds of Change, epi Verlag GmbH: Saarbrucken-Schafbrucke, West Germany, 1986, p. 32, 33, and 59.

8. The World Bank, World Development Report 1987, p. 212.

9. Op. cit., p. 202.

10. Op. cit., p. 250.

11. The Europa Yearbook, 1986, p. 2321.

12. Op. cit., p. 244.

13. United States Agency for International Development, "Shabelle Water Management I Project Paper and Annexes," Mogadishu, Somalia, May 1987.

14. Op. cit., Annex, p. 142.

15. Peter Conze and Thomas Labahn, Winds of Change, 1986.

16. Op. cit.

17. P. Munzinger, J. Janzen, and R. Rothe, "Support to Smallholder Irrigation and Rainfed Agriculture in the Lower Shabelle Region," GTZ/Somalia, Mogadishu, Somalia, 1984.

18. Yusuf Elmi Robleh and Yassin Haji Hussen, "The Agrarian Laws of Somalia," The Half-Yearly Law Review, Mogadishu, Somalia, Vol. 5, No. 11 (1977): p. 34-40.

19. Robleh and Hussen, 1977, p. 34-40.

20. Laitin, David, "The Political Economy of Military Rule in Somalia," Journal of Modern African Studies, Vol. 14, No. 3 (1976): pp. 449-68.

21. Gunn, Susan, "Land Reform in Somalia," in The Peasant Betrayed, J. P. Powelson and Richard Stack, eds., Lincoln Institute of Land Policy, Cambridge, MA. 1986

22. M.O. Fadal, Amina Shego, and Abdillahi Sheikh Ali, "Land Resource, Farm Size and Structure, Land Tenure and Taxation," USAID/Somalia, January 1985.

23. Point 16 of the May 24, 1987 circular from the Ministry of Agriculture on Guidelines for the Giving of Farm Land says "The changing of farm land and certificate will be executed by the Ministry after the two parties reach an agreement between themselves and bring a notarized agreement" (English translation).

24. See Guidelines for Giving of Farm Land, Ministry of Agriculture, May 24, 1987.

25. Allen Hoben, "The Political Economy of Land Tenure in Somalia," in Land Concentration in Africa, Steve Reyna and Richard Downs, eds., New England University Press, forthcoming.

26. See James C. Riddell and Mohamed Said Samatar, "Land Tenure Dynamics in the Jubba Valley," Associates for Rural Development, Burlington, Vermont, 1988; and Catherine Besteman and Michael Roth, "Land Tenure in the Middle Jubba: Issues and Policy Recommendations," Land Tenure Center, Madison, Wisconsin, August 1988.

27. See Allen Hoben, "Political Economy," 1985; and Michael Roth, Harry Lemel, John Bruce, and Jon Unruh, An Analysis of Land Tenure and Water Allocation Issues in the Shalambood Irrigation Zone, Somalia, Land Tenure Center, Madison, Wisconsin, March 1987.

28. Fadal, M. O., Amina Shego, and Abdillahi Sheikh Ali, "Land Resource, Size and Structure," USAID/Somalia, January 1985.

29. See Riddell and Samatar, "Land Tenure Dynamics in the Jubba," 1987; Besteman and Roth, "Land Tenure Issues in the Middle Jubba," 1988; and P. Munzinger et al., "Support to Smallholder Irrigation and Rainfed Agriculture," 1984.

30. Hoben, et al., "Somalia: A Social and Institutional Profile," African Studies Center, Boston University, 1983.

31. Michael Roth, et al., "Land Tenure and Water Allocation," 1987.

32. Op. cit., 1987.

33. Detailed research results are reported in Roth et al., "Land Tenure and Water Allocation," 1987.

34. Catherine Besteman and Michael Roth, in "Land Tenure Issues in the Middle Jubba," describe the value of multiple parcels holdings (each consisting of one or more land types), as a strategy for managing production risk under different climatic situations. Dhasheegs, or inland low lying depressions, collect and hold flood and rain water for long periods of time, and are thus important during droughts. Inland higher ground, called doonk is preferred after floods, because the flood waters drain more quickly from higher ground enabling early cultivation. However, doonk land produces poorly during droughts. Riverbank land called jiimo is valued for its underground water which percolates up through the soil. It will usually produce something during droughts, although not as well as dhasheeg land, and is the best land for fruit trees.

35. See Riddell and Samatar, "Land Tenure Dynamics in the Jubba," 1988; and Susan Gunn, "Land Reform in Somalia," 1986.

Annex 1:
Key Provisions of the Somalia 1975 Agricultural Land Law.

I. Mandatory Registration: Articles 5 and 19 of the 1975 Land Law make land registration compulsory. Permission to use land, that is not registered, ceases six months following implementation of the Law.

II. Duration of Title: Usufructuary (leasehold) rights to land are granted to users by the State on the basis of variable-term leases which vary in length and degree of restrictiveness depending on whether the lessee is an individual, family, or corporate body. Leasehold titles for individuals or families are 50 years in duration and renewable. Titles for cooperatives, state farms or other autonomous agencies have no time limits imposed on the duration of the lease (Article 7).

III. Parcel Restrictions: An individual or family may obtain only one leasehold title irrespective of farm size; granting of leasehold titles to absentee persons is prohibited (Article 6).

IV. Land Area: Land ceilings on leaseholds are 30 hectares of irrigated land or 60 hectares of rainfed land for individuals or families. Special provisions allow this ceiling to be raised to 100 ha. for banana plantations leased by a family or individual. Cooperatives, local government bodies, state farms, autonomous agencies and private companies are excluded from these size restrictions (Article 8).

V. Land Transactions: Registered leaseholds cannot be leased, sold or otherwise transferred to other parties, although the law provides for right of transfer to the state or heirs in the case where the lease holder becomes unable to farm the land for health or other reasons (Article 12). Title is allowed to transfer to rightful heirs upon the death of the leaseholder. If the heirs do not wish to farm the land, it may be redistributed by the state, with the heirs receiving compensation from the new holders based on the costs of investments that may have been made in the land, not the land per se.

Annex 1: Continued

VI. Use Rights: The lessee has the right to: use the land for agricultural purposes; construct farm houses for the purpose of managing the farm; keep a reasonable number of livestock on the farm, and construct necessary facilities for rearing of the livestock; join a cooperative society, and contribute land to a cooperative society.

VII. Responsibilities of the Land holder: Provisions in Article 14 require the lessee (a) not to use the land for any purpose other than for what it was allocated (i.e., for agricultural purposes); (b) to cultivate the land in the best possible manner, to raise fertility, and to achieve the highest possible yields; (c) not to transfer, mortgage, sell, lease or in any way transfer the land to another party; (d) not to unnecessarily fragment the land; (e) to fairly compensate employees; (f) to pay the land tax levied by the government.

VIII. State Nationalization: The State reserves the right to nationalize lands in excess of the area restrictions in Article 8, and to repossess land of a current user who fails to meet the conditions set forth on a lease, or fails to cultivate the land for a successive two year period (Article 15). Article 10 establishes public domain rights of the state to nationalize lands for the public good. The state, by Article 11, has the right to allocate nationalized lands to landless individuals, cooperatives, state farms or other autonomous agencies.

Law No. 23 of 1976 reemphasized certain provisions in the Law regarding agricultural land:

IX. National and Special Agencies: Land controlled by National agencies (presumably state farms) are not bound by size restrictions imposed by the 1975 Law. "Special Agencies", defined as agencies in which the Government is part owner, may have size restrictions imposed by the Minister of Agriculture.

Annex 1: Continued

X. Repossession/Nationalization of land: Any land that is not used for farming or livestock rearing for a period of two years will be given to someone else. Repossessed lands will be reallocated to those persons (a) who are adult and Somali by birth; (b) who have no other agricultural land; and (c) who have the economic capacity to pay compensation to the previous owner.

XI. Taxes: Tax rates are S.Sh. 5 ($0.05) per hectare per year of rainfed lands, and S.Sh. 10 ($0.10) per hectare per year of irrigated land. Tax revenues go to the municipal treasury.

Source: This section is summarized from a translation of the Somali Land Law, translated by Beileh, Abdirahman, "Somali Legislation Relating to Land," Land Tenure Center, Madison, Wisconsin, February 1985.

Annex 2:
Land Characteristics Including Total Land Area, Area Cultivated, Irrigated and Rainfed, Registered and Unregistered, Somalia, 1986

	Total Land Area	Cultivated[a] Area Under Rainfed Ag.	Cultivated[a] Area Under Irrigation	Rainfed Land That Is Titled	Irrigable[b] Land That Is Titled	Number of Registered Farms	Area (ha.) Per Farm	
	'000 ha	'000 ha	'000 ha	'000 ha.	'000 ha.	farms	Reg.	Unreg.[c]
North West Regions[d]	4,480	90.3	-	24.3	8.5	2,927	11.2	6.4
Central and N.E. Regions[e]	32,260	32.5	-	22.3	2.2	2,651	9.2	1.0
Hiraan	3,400	15.3	13.0	0.5	15.8	355	45.8	2.5
Middle Shabelle	2,080	86.8	26.9	-	56.1	1,474	38.0	5.0
Banadir	80	-	-	-	-	-	-	-
Lower Shabelle	2,770	167.2	29.8	16.4	129.6	3,361	43.5	3.0
Lower Jubba	4,900	10.3	16.2	4.4	12.6	501	33.8	1.3
Middle Jubba	1,870	49.7	4.9	3.9	15.9	375	52.6	4.0
Gedo	4,470	37.8	1.6	-	10.5	540	19.4	2.2
Bay	4,120	244.4	-	12.3	5.4	377	46.7	4.3
Bakool	2,630	38.9	-	-	-	-	-	7.7
Total	63,060	773.2	92.4	84.1	256.4	12,561	27.1	3.3

a. Cultivated land is distinguished from cropped land in that it includes arable land, perennial crops, and fallow land.
b. Includes land irrigated by pump irrigation, and controlled and uncontrolled gravity irrigation.
c. Cultivated area divided by total number of farms (MOA, 1987, p. 5), registered and unregistered.
d. Includes the districts of Awdal, West Galbeed.
e. Includes the districts of Togdheer, Sanaag, Sool, Bari, Nugaal, Mudug, Galgadud.

Source: Ministry of Agriculture, Department of Planning and Statistics, "Yearbook of Agricultural Statistics 1986/87," Mogadishu, 1987.