

LTC Paper

LAND TENURE AND AGRICULTURAL PRODUCTIVITY IN MALAWI

by

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TENURE
CENTER**

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A preliminary version of this report was presented to USAID/Malawi and to a Steering Committee from the Government of Malawi composed of officials from the Ministry of Agriculture, the Department of Lands and Valuation, the Department of Irrigation, the State Extension Service, and the Department of Economic Planning and Development before we left Malawi. Their remarks and suggestions have been very helpful, and we have taken advantage of them in preparing this revised version of the report. The report has also been expanded through the incorporation of additional descriptive material and the analysis of data collected during our stay. Brief annexes on Malawi's land laws, the procedures of obtaining a leasehold with copies of lease documents attached, a list of persons contacted, and a bibliography of works consulted have also been added.

All views, interpretations, recommendations, and conclusions expressed in this publication are those of the authors and not necessarily those of the supporting or cooperating organizations.

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PREFACE

This paper is based on a trip to Malawi that we made in September 1989 at the request of the U.S. Agency for International Development mission in that country. Our visit had two purposes: to contribute to USAID/Malawi's preparation of a new Country Development Strategy Statement, and to summarize the land tenure issues being debated in the context of negotiations between the Government of Malawi and major donors of foreign assistance for an Agricultural Sector Adjustment Credit sponsored by the World Bank. This paper is a revision of the report we prepared for USAID/Malawi summarizing our findings and recommendations.

Since the time the report was submitted, we have been pleasantly surprised by the number of requests for it despite its lack of publicity. Indeed, interest in Malawi's land tenure situation has, if anything, increased. While many African countries after independence sought to introduce collective and state-managed forms of tenure, Malawi followed the unusual course of introducing legislation that provided for registration of land as individual holdings, in either freehold or leasehold. The tide has now shifted in many of the other countries, and national governments, with the encouragement of international donors, have begun to divest themselves of state holdings and to encourage private development initiatives. Thus, Malawi's experience with individual, registered title over the past thirty years may yield important indications of the possible benefits and drawbacks of such a policy for application elsewhere.

In preparation of the original report and its revision, we have been grateful for the assistance of many individuals. Most particularly, we wish to thank Mr. S.S. Banda, Economist of the Department of Planning, Ministry of Agriculture, Government of Malawi; Ms. Roberta Mahoney, Program Officer, USAID/Malawi; and Ms. Jane Dennis, Land Tenure Center.

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INTRODUCTION

Land in Malawi is divided into three statutory categories: customary land, private land, and public land. Land tenure on customary land is based on the diverse traditions of several ethnic groups, all of which do not recognize freehold ownership rights but rather allocate use rights which are inheritable according to the customs of each group. Within the private land category, there is freehold, most of which derives from the colonial era and is held by people of European extraction, and leasehold, most of which is held by people of African extraction. Public land is primarily composed of forest and road reserves, but includes a substantial amount which has been leased to individuals.

Since the 1960s the Government of Malawi, under the leadership of President H. Kamuzu Banda, has pursued a land tenure policy that transfers land from the customary sector by its registration as private, individual holdings. This policy is in sharp contrast to the course followed in many other African countries, including neighboring Tanzania, Mozambique, and Zambia, which chose to emphasize collective forms of tenure and state ownership of land as a means of nation-building and development in the years immediately after independence. Malawi's course has thus been highly unusual.

The legal basis of this policy is a series of laws pertaining to land use and allocation enacted in 1967 (summarized in annex 1). Speaking at the time, Banda argued that the laws would "revolutionize our agriculture and transform our country from a poor one into a rich one." Further, he said:

Under our present system of land holding and cultivation no one either as an institution or as an individual, will lend us money for developing our land because our present methods of land holding and land cultivation are uneconomical and wasteful. They put responsibility on no one No one holds land as an individual. Land is held in common.¹

Banda's words expressed the belief, widespread among official Malawians as well as foreign development experts both then and now, that customary land tenure is inherently insecure and hence holders of customary land will not invest time or resources in land management, the adoption of new techniques and crop varieties, or soil conservation. By promoting the transfer of land from the customary sector into leasehold estates and, on a pilot basis, the registration as freehold of customary

¹Quoted in S.R. Simpson, Land Law and Registration (Cambridge, 1976), pp. 457-8.

holdings, the government has supported the theory that given the security of a leasehold or freehold title, a farmer will innovate, invest, and generate surpluses of crops both for the domestic market and for export.

How successful has this policy been? On the one hand, a significant amount of foreign exchange is generated by Malawi's agricultural exports. Yet, on the other, malnutrition and fractionalized land holdings in the customary sector are of increasing concern. In attempting to assess the broad impact of the government's land tenure policy, our inquiry focused on several specific issues of particular interest to USAID/Malawi and the World Bank:

- the rationale for restricting some crops to particular types of land tenure and its impact on productivity and incomes, especially of smallholders;
- the long-run impact of transfers of land from the smallholder sector into the estate sector;
- the increasing amounts of unutilized private land;
- the high turnover of farmers from government settlement schemes due to settlers' lack of security of tenure on the land; and
- tenure-related contributions to the long-term threat to the rural economy stemming from the increasing demands for fuelwood coming from a decreasing area of forests.

Evidence that we assembled during our trip suggests that despite its highly successful export-crop performance, the estate sector is riven with serious problems which call its basic premises into question. Furthermore, the difficulties of the customary sector are more satisfactorily explained by inadequate government policy toward the smallest of smallholder farmers than by anything inherent in the customary land tenure system. The report is divided into four sections, dealing with the estate sector, the customary sector, government schemes, and tree tenure. Each of these four parts presents our findings and analysis as well as a set of recommendations. The conclusion draws together and summarizes these recommendations. Annexes on Malawi's land laws, the procedures of obtaining a leasehold, and a bibliography of works consulted are attached.

I. PRIVATE LAND: LEASEHOLD AND FREEHOLD ESTATES

A. Transfer of Land to Estates from the Customary Sector

Since passage of the Lands Act* in 1965, it appears that several hundred thousand hectares of customary land have been taken by Government to be allocated as leasehold estates. A further 50,000 hectares are in freehold, mostly the legacy of the colonial era. The increasing amount of land allocated to the private estate sector represents one of the most dramatic aspects of land tenure in Malawi, and there is no sign that demand for leasehold estates is decreasing. According to the Department of Lands and Valuation (DLV), which is responsible the allocation of leaseholds, 208 leases were granted in 1986; 267 in 1987; and 308 in 1988: a rise of roughly 50 percent from 1986. Moreover, this represents only a fraction of the demand. The DLV estimates that it has a backlog of from 7,000 to 12,000 applications, while at the district level there are accumulations of still other applications that have yet to be forwarded to Lilongwe. According to the DLV, there were a total of about 300,000 hectares in leasehold estates in 1989.

The Ministry of Agriculture estimates that the leasehold sector is much larger than this: an estimated 691,000 hectares as of 1987 (World Bank 1987, p. 7).** We were unable to obtain a current, detailed breakdown of the distribution of land between estates and the customary sector for the entire country; we were, however, able to do so for Kasungu, the ADD with the greatest area in the estate sector, for 1984/85. As table 1 shows, as of four years ago, estates in Kasungu ADD comprised as much area as the DLV figures for the entire country in 1989 and occupy one-fourth of the arable land in the ADD.

A complete list of estates in Mzuzu ADD up to September 1988 obtained from the Ministry of Agriculture shows that they total over 164,000 hectares. These data are presented in tables 2 and 3. Table 2 is a breakdown of the Mzuzu ADD estates by size. More than two-thirds of the leasehold land is in the 15 percent of estates with over 100 hectares. Forty leaseholds are held by corporations or Government agencies (see appendix table 1). Table 3 is a breakdown of the estates in Mzuzu ADD by the year in which the leases were obtained. The most dramatic observation is that fully half of the estates were established in the last two years. On the other hand, these represent only about 20 percent of the area in estates. Nearly all the large estates, of 100 hectares or more, were established before 1980, including the large area for which the date was not given in the data file (see note to table 3).

* A summary of important land legislation is given in annex 1.

** It is unclear where the figure of 691,000 ha. comes from. Later in the same report (pp. 17 and 21), the figure of 550,121 ha. is quoted for 1982/83. The Mkandawire and Phiri report (1987), prepared as input for the Bank report, gives 265,115.1 ha. for 1982 and 308,413.1 ha. for 1985, based on DLV sources. What is clear is that there is substantial uncertainty about the true size of the estate sector. The DLV and the Ministry of Agriculture should devote considerable efforts to harmonizing their databases so that future policy analysis can proceed on an informed basis.

TABLE 1
Area (in ha.) by Sector, Kasungu ADD, 1984/85

<u>Total Kasungu ADD</u>	Total area	1,365,860
	Limitations*	412,680
	Gross arable	953,180
<u>Estates</u>	Total area	298,110 (21.8% of ADD total)
	Limitations	59,054
	Gross arable	239,056 (25.1% of ADD arable)
<u>Customary land</u>	Total area	1,067,750 (78.2%)
	Limitations	353,626
	Gross arable	714,124 (74.9%)

Source: Kasungu ADD.

* Limitations include forest reserves, land with slope greater than 12%, dambos, and miscellaneous.

We also studied the Deeds Registry to explore recent trends in leasehold registration. Due to time limitations, we were unable to extract all entries. We chose to select a comprehensive sample of all entries in the Registry for January and July ("typical" months) of the years 1985 to 1989; summary data on the individual leaseholds with a 21-year term are shown in table 4 and a complete listing by district is given in appendix table 3. An indication of the total for each year can be obtained (though with caution) by multiplying the number and total area by six. Through 1988, the area given out increased dramatically, and there was a noticeable decline in 1989, perhaps due to the institution of limiting leaseholds in areas with increasing land scarcity.

TABLE 2
Distribution of Leasehold Land in Mzuzu ADD by Area of Estates
(to September 1988)

AREA	NUMBER	TOTAL AREA (ha.)	PERCENTAGE ESTATES	PERCENTAGE AREA	GROUP PERCENTAGE ESTATES	PERCENTAGE AREA
Under 5 ha.*	227	247.5	10.2	0.2		
5 - < 10*	45	259.7	2.0	0.2	12.3	0.3
10 - < 20	555	8,030.5	25.0	4.9		
20 - < 30	381	8,870.6	17.2	5.4		
30 - < 40	181	6,101.6	8.2	3.7		
40 - < 50	172	7,482.8	7.7	4.5	58.1	18.5
50 - < 75	222	13,157.8	10.0	8.0		
75 - < 100	97	8,341.0	4.4	5.1	14.4	13.1
100 - < 200	131	18,012.4	5.9	10.9		
200 - < 300	65	15,275.1	2.9	9.3		
200 - < 500	86	35,049.0	3.9	21.3	12.7	41.5
500 - < 1000	53	34,672.8	2.4	21.1		
1000 and over	5	9,043.9	0.2	5.5	2.6	26.6
Total**	2220	164,544.7	100.0	100.0	100.0	100.0

* These are presumably primarily urban, or for uses other than commercial farming (10 ha. is the minimum area required to obtain a tobacco license).

** Twenty leasehold estates have no area listed.

TABLE 3
Leasehold Land in Mzuzu ADD by Year of Registration

YEAR	NO. OF LEASES	AREA (ha.)	AVERAGE SIZE	CUMULATIVE:		AVERAGE SIZE OF EXISTING LEASEHOLDS
				No. of Leases	Area	
1971	2	450.6	225.3	2	450.6	225.3
1972	3	631.1	210.4	5	1,081.7	216.3
1973	3	226.9	75.6	8	1,308.6	163.6
1974	7	1,106.6	158.1	15	2,415.2	161.0
1975	19	1,359.4	71.5	34	3,774.5	111.0
1976	8	1,838.4	229.8	42	5,612.9	133.6
1977	5	632.2	126.4	47	6,245.1	132.9
1978	66	15,264.7	231.3	113	21,509.8	190.4
1979	79	15,109.6	191.3	192	36,619.3	190.7
1980	35	2,861.5	81.8	227	39,480.8	173.9
1981	26	1,873.5	72.1	253	41,354.3	163.5
1982	149	9,795.9	65.7	402	51,150.2	127.2
1983	164	8,946.0	54.5	566	60,096.2	106.2
1984	121	4,630.4	38.3	687	64,726.5	94.2
1985	61	2,800.3	45.9	748	67,526.9	90.3
1986	167	5,580.3	33.4	915	73,107.1	79.9
1987	442	13,362.2	30.2	1357	86,469.3	63.7
1988*	660	18,829.6	28.5	2017	105,298.9	52.2
Subtotal	2017	105,298.9	52.2			
Missing date**	214	59,335.7	277.3			
Total	2231	164,634.5	73.8			
1971-1979	192	36,619.3	190.7			
1980-1983	374	23,476.8	62.8			
1984-1986	349	13,011.0	37.3			
1987-1988	1102	32,191.8	29.2			

Source: Ministry of Agriculture files.

* Through 15 September.

** Leases with missing dates are apparently nearly all from the 1970s or earlier. We can assume this because of the organization of the data file, which is roughly chronological. The true picture is therefore not quite as dramatic as it is presented here.

TABLE 4

**Entries in the DLV Deeds Registry
Complete Register of Private Leaseholds Granted
with a 21-Year Term
January and July, 1985-1989**

YEAR	NUMBER	TOTAL AREA	AVERAGE AREA
1985	7	457.6	65.4
1986	15	1327.6	88.5
1987	57	2001.9	35.1
1988	49	2174.8	44.4
1989	19	1097.8	57.8

Source: Appendix table 3.

B. Tobacco Production on Leasehold Estates

Demand for leaseholds has been driven by the provision of the Special Crops Act which limits production of burley and flue-cured tobacco, among other crops, to the private estate sector. Of the 308 allocations of leasehold estates the DLV made in 1988, all but one were for the purposes of tobacco cultivation. Again, the DLV figures are probably too low: Tobacco Control Commission figures, reported in Table 5, show that nearly 2,000 estate-holders were added to the number of growers licensed to sell burley tobacco between 1987/88 and 1988/89.

Since the mid-1980s and until this past year, when prices for burley tobacco have been generally lower, reflecting poor quality, cultivators have received substantial profits. With yields averaging about 1,000 kilograms/hectare and prices on the auction floor of 5-6 kwacha/kilogram in 1987/88, returns have been excellent, fueling the demand for leasehold estates.

TABLE 5
Burley Tobacco Production Data, 1978/79 to 1988/89

YEAR	OUTPUT (tons)	AVE.PRICE (t/kg)	AREA (ha)	NO. OF GROWERS	NO. OF TENANTS	NO. OF ESTATES	AVE.YIELD (kg/ha)
1988/89*	55,000	n.a.	54,651	7593	n.a.	n.a.	1006
1987/88	45,544	524.47	51,898	5659	n.a.	n.a.	878
1986/87	36,789	396.33	34,524	4340	42,152	4340	1066
1985/86	30,190	291.40	28,240	3198	35,432	3383	1069
1984/85	30,372	181.55	31,503	3300	27,170	3498	964
1983/84	29,979	172.49	26,946	3189	24,391	3411	1113
1982/83	41,537	130.71	39,389	3854	46,823	4032	1055
1981/82	27,602	216.24	23,309	1869	24,519	1980	1184
1980/81	18,804	231.61	15,980	947	19,985	1068	1176
1979/80	16,686	117.74	13,808	723	18,873	814	1208
1978/79	14,902	107.49	13,790	601	16,194	686	1082

Source: Tobacco Control Commission. See Appendix table 2 for complete tobacco production statistics.

* Output figure for 1988/89 is the quota allocated to Malawi by the "trade"; yield is then calculated by dividing the quota by the total area (which is specified on the tobacco license forms).

Licenses to grow burley tobacco specify production quotas which permit leaseholders to allocate only a fraction of their land to tobacco production.* There are two standard rotations, which are not followed by all estates: tobacco-maize, three years' fallow; and tobacco-maize, two years' improved fallow.** This would imply that tobacco would be grown on between 20 and 25 percent of the land, with maize on an equal amount. Actual area farmed appears to be substantially smaller than this, however: Mkandawire and Phiri (1987, p. 42) found that only one-fourth of the land in their sample of fifteen large estates was under use, and the World Bank (1987, p. 21) estimates that only 7.9 percent of estate area was in tobacco. In the absence of official statistics on estate land use, however, we can only conclude that there is little evidence that the estate sector is making effective use of the land under its control.

Actual cultivation of burley tobacco is done by tenants, who farm small parcels allocated to them by the estate owners. Tenants are paid whatever the estate owner wishes to pay them (see Mkandawire and Phiri 1987). This system is unlikely to lead to technical improvements which would increase burley yields; as the last column of table 5 shows, if there is any yield trend, it is downward. Estate owners have apparently not responded to their high profits of the 1970s and mid-1980s by innovating: as represented by output per tenant and area per tenant, techniques in use today appear to be about the same as they were a decade ago (see table 6).

TABLE 6
Output and Area per Tenant on Burley Estates

YEAR	OUTPUT PER TENANT (kg)	AREA PER TENANT
1986/87	872.8	0.819
1985/86	852.0	0.797
1984/85	1117.9	1.159
1983/84	1229.1	1.105
1982/83	887.1	0.841
1981/82	1125.7	0.951
1980/81	940.9	0.800
1979/80	884.1	0.732
1978/79	920.2	0.852

Source: Table 5.

* Quotas are supposedly calculated on the basis of yields of 1500 kg/ha. multiplied by the number of hectares devoted to burley (derived from total estate area assuming a five-year rotation scheme). The standard minimum quota is 3000 kg, the amount that can be produced on 2 ha. of a 10 ha. leasehold.

** The recommended rotation for smallholder tobacco is more intensive: a four-year rotation without fallow of tobacco-maize-groundnuts-maize.

TABLE 7
Summary Information on Sample of Tobacco Licenses for 1988/89

DISTRICT	NO. OF LICENSES	AREA (ha)	NO. OF TENANTS	BURLEY QUOTA (tons)
Ntchisi	33	219	416	328.4
Mchinji	149	1168	1808	1755.9
Kasungu	156	778	1234	1196.0
Salima	148	1233	1887	1311.0
Nkhota-kota	90	547	1963	793.4
Dowa	18	36	83	54.8
Total	594	3981	7391	5439.5

Source: Ministry of Agriculture.

NOTES

1. Many of the license forms in Salima District (59), and a few in Nkhota-kota (4) and Dowa (3), were incomplete: numbers of tenants and/or area were not given. We have estimated the area and number of tenants by dividing the quota by 1.5 for area and assuming 1 ha. per tenant. For Salima this appears to lead to an underestimate of the number of tenants and an overestimate of the area. Most of the affected estates are small, so this adjustment should not have much impact on the total.
2. In our sample, 92 estates also grow burley using hired (direct) labor rather than tenants. They had an additional total quota of 360 tons.
3. Sharing a quota of 1,778 tons (33% of the total), 91 estates gave mailing addresses in Lilongwe, Blantyre, Limbe, or Zomba. This gives an (imperfect) indication about the extent of absentee ownership.

We were able to study a nonrandom sample of tobacco licenses for six districts in Kasungu and Salima ADDs, and present summaries of the information from them in table 7. The sample represents approximately 10 percent of the total number of licenses and 7 percent of the area reported in table 4; since the sample is nonrandom (probably covering the majority of tobacco estates in Salima ADD and about 10 percent of the estates in Kasungu ADD), we cannot be assured of its representativeness. With that caveat, we present in table 8 the distribution of the burley quota by size. In all districts except Kasungu (and Dowa, but the sample is small), the largest size category--a quota of 25 tons or

more*--claims the lion's share of the total quota: from 36 to 54 percent of the district total. Twenty-four estates in the six-district sample control nearly 40 percent of the burley tobacco quota. Lest one think that the large estates are likely to be more efficient (using different labor-land ratios, for instance), a look at the last row of table 8 should indicate otherwise: the percentage of tenants occupied on the large estates is only slightly lower than their share of the quota. In other words, the large estates employ almost as many tenants per ton of burley tobacco as the smaller estates. If these figures are representative of the aggregate picture, we suggest that the degree of inequality of access to the lucrative burley market even within the estate sector reinforces the recommendation made below that a reform of the licensing system is required.

* A quota of 25 tons implies an estate of at least 80 ha., given a 5-year rotation and a 1500 kg/ha. ratio. In fact, however, the average estate appears to devote about 10 percent of its area to tobacco (68,000 ha. of flue-cured plus burley on about 600,000 ha. in 1987/88--see appendix table 1); this would mean that a typical estate with a 25-ton quota would have a size closer to 160 hectares.

TABLE 8
Distribution of Tobacco Quota by Size of Quota
(tons)

SIZE OF QUOTA	D I S T R I C T						TOTAL
	Ntchisi	Mchinji	Kasungu	Salima	Nkhota.	Dowa	
Under 2	-	-	-	16.1	4.5	-	20.6
2 - < 3	2.7	-	5.4	25.1	32.0	35.0	100.2
3 - < 4	13.8	103.8	63.6	113.8	45.0	-	340.0
4 - < 6	58.4	256.0	318.2	153.8	151.1	13.8	951.3
6 - < 10	72.5	223.0	249.2	187.1	87.8	6.0	825.6
10 - < 15	44.0	164.3	225.0	133.0	33.0	-	599.3
15 - < 25	17.0	133.3	190.2	162.0	15.0	-	517.5
25 and over	120.0	875.5	144.3	513.6	438.0	-	2091.4
Total	328.4	1755.9	1195.9	1304.5	806.4	54.8	5445.9
% in 25 and over category	36.5	49.9	12.1	39.4	54.3	0	38.5
# of estates in 25 and over category	1	6	4	7	6	0	24
% of tenants in 25 and over category	36.1	34.5	8.4	34.5	44.8	0	32.6

C. Controlling Demand for Leaseholds

While the leasehold estates have been very successful in producing a valuable crop for export, they have neither made satisfactory use of their land nor sparked the modernization of Malawian agriculture. Given the decreasing farm size on customary land throughout the country (see section II, below), the estates' underutilization of land has become socially and economically unacceptable, and Government intervention is urgently required. On the one hand, demand for leasehold estates must be damped; and on the other hand, the intensity of land use must rise. To date, no satisfactory solution to either problem has been found. An attempt to halt leasehold allocations in Kasungu District, where the percentage of arable land held by the estates is the highest in the country, has proved ineffective. Some prospective leaseholders instead rushed to secure land in neighboring districts, while others, taking advantage of the concession that already pending applications would be acted on, managed to have their applications backdated. Smallholders in districts where estate formation has been active have pushed to register their holdings as a defensive measure to guard against their being allocated to outsiders.

Another solution has been proposed by the World Bank and others: halt the allocation of leaseholds altogether in order to limit the supply of leasehold land. But this creates another problem by penalizing the smallholder who wishes to convert his land to leasehold in order to use it as security for a bank loan or for other developmental purposes. It also leaves unresolved the problem of the 7-12,000 application backlog, which because of the 10-hectare minimum for burley estates would mean that a minimum of 70,000 hectares more would be removed from the customary sector. We consider that a better solution would be to determine the maximum total area to be allowed in the leasehold estate sector, say at the present level (once it is clearly established what the present level is), and then to satisfy new applications for leasehold out of the area recovered from estates which go out of business or return some of their land to Government because they are unable to develop it. Smallholders wishing to convert their customary holdings to leasehold might be exempted from the overall limit (with the condition that they demonstrate continuous occupation of the land for at least five years).

An approach far more likely to reduce demand for leasehold is to repeal the provision of the Special Crops Act that limits cultivation of burley tobacco to the estate sector, thereby removing the precondition of leasehold title.* There is no evidence that possession of leasehold tenure contributes to the quality of the tobacco grown on the estates, especially since tenants do all the work. Moreover, according to the general manager of the Tobacco Research Authority, greater yields are not necessarily achieved on larger pieces of land; the crucial determinant of yield and quality is management. The farmer who tends his tobacco more carefully, regardless of how large an area he has planted in the crop (or what his tenure is), will have better results. Since tenants under farm managers do the farming rather than the estate holder himself, the system may have all the disadvantages of sharecropping with absentee ownership that have been found elsewhere in the world.

* It is probably not feasible to consider flue-cured tobacco for the smallholder sector. Curing requires the construction of special barns as well as the consumption of substantial amounts of fuelwood. Unless a smallholder possesses both the necessary capital for barn construction and adequate amounts of woodland, burley production is the better option. Smallholders in Zimbabwe grow flue-cured tobacco but participate in cooperative curing; such a system might be devised in Malawi as well.

It is quite likely that equal or better yields and quality could be obtained by smallholders. Lele and Agarwal (1988) show that smallholders produce burley with lower Domestic Resource Costs than do estates. Evidence we present in section III, below, suggests that smallholders can achieve substantially higher yields than the estate average. The work of Carr (1989) demonstrates the technical and economic feasibility of smallholder production of burley on farms with a total size of no more than 0.5 hectare. The apparent reasons why production and yields of other tobaccos on customary land are so low are that inputs are difficult to obtain and, perhaps more importantly, because ADMARC has in recent years paid farmers only a small fraction of the auction floor price (Christiansen and Southworth 1988).

D. Regulation of Leasehold Estates

The present situation gives leaseholders neither positive nor negative incentives to bring the land which is not under tobacco into production. The paucity of data concerning estate production and productivity testifies to the general lack of concern with estate agriculture outside the provisions of the Special Crops Act. The Ministry of Agriculture is concerned with smallholder production, and its programs, data-gathering, and staff are devoted, quite appropriately, exclusively to that sector. An Estate Extension Service has recently been created, but the fact that the Service is financed out of tobacco profits via a checkoff on the auction floors means that it is unlikely to devote time and effort to encouraging cultivation of other crops. In addition, it is too small (a staff of four, all based in Lilongwe) to be effective as yet.

The DLV faces similar problems in carrying out its functions and has been severely constrained both in its collection of ground rents and in its ability to see that leaseholders comply with the lease covenants (Twomey 1989). Ground rent is currently set at 10 kwacha/hectare, equivalent, at recent auction floor prices, to 2 or 3 kilograms of burley tobacco (or 1-1.5 percent of the value of tobacco produced on an estate growing average yields on 20 percent of its acreage). To demonstrate that rents are below the economic value of the land, there is evidence that estates sublet their land at several times the rent they pay to Government (anon. n.d.). Furthermore, many leaseholders do not pay their rent: it is estimated that a sum of over 3 million kwacha is in arrears (DLV, personal communication). Although nonpayment of ground rent is a violation of one of the lease covenants, no leaseholds have been canceled. Recently arrangements have been made--but not yet put into operation--to have the Treasury collect ground rents at the tobacco auction floor. Treasury already collects income tax in this fashion, but such an arrangement assumes that all leaseholders cultivate tobacco.

Similarly, the covenant requiring that 10 percent of the leased land be allocated to woodlots remains unenforced. Nor is there any attempt to inspect to see that the land is being utilized in accordance with the four-year development plan that must be drawn up and submitted at the time of application. The DLV does not have an inspection unit to carry out these tasks although plans have been made to establish one in the near future. At present, then, once a lease has been granted there is no supervision of land use or enforcement of lease covenants.

E. Recommendations

Achieving the goals of increasing productivity on estates while at the same time diminishing demand for leasehold title will require reconsideration of present policies with regard to estate sector

production, careful evaluation of data pertaining to this sector, as well as provision of adequate staff and equipment for government departments responsible for granting and administering leaseholds. We therefore recommend the following:

1. Abrogate the provision of the Special Crops Act limiting burley tobacco production to the estate sector. Quotas should be allocated without regard to tenure type. The World Bank has recently proposed that quotas be auctioned off, and this proposal should be given consideration. We are concerned, however, that a unified auction would present difficulties for smallholder access; perhaps one could design separate auctions for the private and customary sectors. The recommendation to permit smallholders to grow burley is discussed further in the next two sections, where we present evidence of the capacity of smallholders to produce burley of high quality with high yields with effective extension and access to inputs.
2. Increase ground rents to an economic level, and collect them. There are two current proposals to increase rents: the DLV proposes a rate of 20 kwacha/hectare, and the World Bank suggests a rate equal to its real 1985 level, which would imply about 17 kwacha/hectare in 1989. Either of these would be preferable to the present rate, but we feel that an economic study of estates would reveal that the optimal rent would be substantially higher than either. Provision should also be made for revaluation of ground rent levels on a periodic basis--more frequently than the seven-year minimum interval in current law--and whatever legal changes in the lease itself necessary to permit periodic reassessment should be made. There is some sentiment in Government and in the donor community that rents should be graduated by land capability, by size of estate, or by other criteria, and we agree in principle. However, the present lack of data on land quality makes this impractical. Until the proposed national land-use capability study has been completed, we feel that ground rent should continue to be levied on a flat rate per hectare.

Furthermore, provision should be made for the complete collection of ground rents. Rather than attempt to collect them at the tobacco auction floors, which assumes that all estates grow tobacco, the Department of Lands and Valuation should arrange to have them paid at the district level through the District Treasurer-Cashier. Similar systems work well even in countries such as Haiti, where government is generally much less effective than in Malawi (see Bloch et al. 1988). Computerization of DLV records, which we understand is being undertaken, should enable payments to be monitored with greater accuracy. The higher rents and insistence that they be paid should serve to induce leaseholders to develop their holdings fully.

3. Impose a land tax on freehold estates. While we have not discussed the freehold estates in this report, we feel that these significant areas of valuable land should contribute more than they now do to government revenue (apart from income tax.) A land tax, graduated by land capability and size, would be fairly easy to implement given the modest numbers and large average size of these estates (see Twomey 1989). Such a tax should also be imposed on the leasehold estate sector because of its commercial avocation, but since Government is the landowner, the only sensible means of collection would be by adding it to the ground rent.

4. Enforce the covenants of estate leases. These covenants, including the ground rent requirement, should be enforced and lessees unable to comply with the obligations should have their leases terminated or their land allocation reduced. The DLV should recruit the necessary staff to carry out this responsibility. The Government should also monitor estates' land use, using the four-year development plan required of applicants as a guide to an individual leaseholder's fulfillment of the terms of the lease. A leaseholder who failed to meet the four-year target might be granted a limited-term extension (of two to four years) to develop the land as planned. Any land that remained undeveloped after the end of the extension would be either returned to the customary sector or allocated to other applicants for leasehold land. While enforcement of development conditions has proved problematic elsewhere in Africa (for example, Uganda), we feel the Government's success in monitoring and facilitating other aspects of agricultural production indicates that it may be more successful in Malawi. The enlarged operations of the DLV could be financed by earmarking part of the increased collection of ground rents.
5. Establish a limit to the total area of the estate sector. Rather than attempt to limit leaseholds to the less heavily populated areas of the country or halt them altogether, the Government should set an absolute limit to the amount of land transferred from the customary to the private sector on a district-by-district basis. Our recommendation is that this limit should be the current total area (whatever that is). New leaseholds could be granted as older leases, or those portions left undeveloped, were surrendered or reassigned. In addition, so as not to penalize a customary holder who wished to obtain a leasehold as security for credit, provision could be made to grant leasehold to individuals on land they had held in the customary sector for five years or more.
6. Impose a maximum size of 100 hectares on new estates, and review the justification for existing estates larger than 100 hectares. At present, applications for estates larger than 100 hectares must be "justified." We feel that this condition is too weak to have any effect, even though few leaseholds larger than this have been granted in recent years. Given the fixed amount of agricultural land and the increasing number of people wishing to farm, no individual should be permitted to gain access to more than one hundred times the average smallholder holding. While an exception to this limit might be made for ranching on marginal lands, even there we feel that Government should satisfy itself that no alternative use of the land by smallholders would be equally productive.
7. Institute a legally binding tenancy contract. Estate tenants are the most insecure farmers in Malawi, and in spite of the financial bonanza reaped by estate owners, there is no indication that tenants are better off than customary farmers. The estate owners' monopsony position permits them to take as much of the tobacco revenues as they wish. Consideration should be given to the design and implementation of a tenancy contract which specifies both terms of the tenancy and tenants' rights to grow other crops and plant trees and to accrue an agreed-upon share of profits from tobacco.
8. Make renewal of leases contingent on a thorough survey of land use and productivity. Twenty-one-year leases granted in the early 1970s will come up for renewal in the next few years. Many of the early estates are among the largest in the country, and their renewal will confirm existing holdings for an additional ninety-nine years. We urge that renewal not be automatic, but rather be conditional on detailed on-site inspection by a

combined DLV-Agriculture team to ensure (a) that all lease covenants are being complied with, and (b) that land use, tenancy conditions, and agricultural productivity are satisfactory.

9. Make the Estate Extension Service operational. The Estate Extension Service should be structured to enable it to guide estate farmers in expanding their operations and diversifying production. In order to achieve this it will need a significantly larger staff; the training necessary to provide services and advice geared specifically for the estate sector; and additional, less narrow sources of funding beyond that it receives at the present. A portion of the ground rents collected from the estates might be earmarked for the Estate Extension Service.
10. Conduct an intensive study of the estate sector. Because very little information is available on agricultural production and conditions on leasehold estates, a comprehensive study should be undertaken to collect data on management practices, levels of productivity, land use, absentee ownership, and conditions of tenancy on estates. The Mkandawire and Phiri study (1987), while containing valuable insights, is more tantalizing than conclusive. The results of this study would be instrumental in guiding greater specificity of government policy toward the estates and would help the Estate Extension Service in providing services to the private estate sector.

II. CUSTOMARY LAND TENURE AND LAND USE

Smallholder cultivation under customary land tenure is bedeviled by severe problems of decreasing holding size, falling yields, and increasing use of marginal lands. These problems are especially prevalent in the Southern and Central Regions, where a combination of high population density and allocation of land to the estate sector have resulted in increased land pressure. For the country as a whole, annual population growth has been estimated at over 3.2 percent, one of the highest in Africa. Malawi's population and its economic focus remain overwhelmingly rural, and population increases mean that approximately 30,000 new families must be absorbed into the customary sector each year. At the same time, increasing amounts of land have been withdrawn from the customary sector: in addition to over 600,000 hectares allocated as freehold and leasehold estates, significant (though smaller) amounts of land have been transferred to the public sector. Although these latter allocations are not always without benefits to smallholder cultivators, they represent direct losses to total land available in the customary sector. In Mchinji District in the Central Region, for example, over 45 percent of the arable land is now held as leasehold estates and the average customary holding size has fallen from 2.0 hectares in 1980/81 to 1.6 hectares in 1987. Population pressure is especially severe in the Southern Region, and many holdings average less than 0.5 hectare.

This dire situation expresses itself in increasing levels of malnutrition and rural poverty. One authority points to the rising incidence of pawning of land as an indication of greater impoverishment of smallholders (Mkandawire and Phiri 1987; and Mkandawire, personal communication). Other evidence is provided by a recent study undertaken of six villages in Mulanje District in the Southern Region which found that by January, several months before harvest, almost 90 percent of the households had run short of food and were forced to supplement their depleted stocks by purchasing food or trading labor for it. The most vulnerable households, 10-15 percent of each village, rarely harvested enough to last more than two to three months. Almost all of the households were land-poor, their holdings averaging less than .4 hectare. Other conditions contributing to their increasingly precarious situation were scattered holdings, depleted soils, labor constraints, and a lack of any substantial off-farm income opportunities (Trivedy 1988; see also Peters 1988).

A. Customary Land Tenure Systems

Land in the smallholder sector is held under customary land tenure systems. In the Northern Region, the land tenure systems are predominantly patrilineal, while in the Southern and Central Regions, matrilineal systems are more common (see Riddell 1985). In a patrilineal system, such as is found among the Ngoni and Ngonde peoples in the north, land is passed directly from father to sons. In a matrilineal system, followed by the Chewa and the Yao, a son can expect to receive land from his mother's brother. Most ethnic groups in the Southern and Central Regions also adhere to the principle of uxorilocal residence (residence in the wife's village), thus further complicating the picture by providing a man with access to land in his wife's family village. One criticism that has been leveled against uxorilocality is that husbands have no power in their wives' villages and must depend on their in-laws for both land and access to local authority.

In the precolonial period, shifting cultivation was the most common form of agriculture. As soil fertility declined or as additional land was needed to accommodate younger members of the community, the village headman or chief would be asked to designate an area of land not already under cultivation for expansion. Today headmen retain the power to allocate land although there is less unused that they can make available. More and more often the younger generation is accommodated through the subdivision of land already under cultivation, and fallow periods have been either shortened or eliminated altogether. One of the advantages of patrilineal inheritance over matrilineal succession pointed out by anthropologists and others is that patrilineal systems, with their relatively simpler means of passing land on to the next generation, are better able to incorporate increased numbers of heirs when land becomes relatively scarce. In neither system is land owned outright, and land is not transferred through sales. Rather, if land becomes vacant (due to migration, for example), it reverts to the headman, who can then may reallocate it.

B. Customary Land Tenure and Agricultural Production

Development experts have often blamed the customary tenure system, in Malawi as elsewhere, for low levels of production and "inappropriate" cultivation techniques, attributing smallholders' failure to produce a marketable surplus to insecurity of tenure and lack of a registered title. Matrilineal systems of inheritance have been deemed particularly culpable, the reasoning being that because a man receives land from his father's sister and will pass it on to his sister's sons rather than his own, he lacks the incentive to develop it properly. There is no evidence to support this contention, however. It must also be pointed out that the principle of matrilineal inheritance represents an ideal rather than an obligation, and the actual range of options for acquisition of land is wider. In Malawi, for example, it is also possible for a man to receive land from his wife's family as well as to ask the chief. Moreover, there are indications that matrilineal succession systems are weakening in the face of land shortages, with individuals turning to their own fathers and mothers for land with increasing frequency. R.M. Mkandawire, analyzing data gathered by the Lilongwe Rural Development Project, found that young men under the age of 40 were more likely to have received land from their parents than from maternal relatives or the village headman; older farmers, by way of contrast, had most often been allocated land by the headman. Land shortages as well as integration into the wider cash economy are responsible for this change, he believes (Mkandawire 1984, pp. 124-25; also, Riddell 1985).

Another factor, common to both patrilineal and matrilineal succession systems, that is seen to contribute to this lack of security and to constrain development is the fact that no one owns land outright but rather is allocated it by a chief or other traditional authority and may be expelled from it. This too exaggerates reality. Land is generally passed within a family from one generation directly to the next, and the chief may play little role in the succession. Nor is land likely to be taken away from an individual without extreme cause such as murder, theft, or witchcraft. Forfeiture of land is very rare.

In Malawi today, the insecurity a smallholder may feel is more likely to come from the estate sector than from the customary system of land tenure. Expansion of the estate sector has resulted in diminishing amounts of land for use by smallholders (of both present and future generations) and, in a certain number of instances, in individuals being moved off their land. This is a very real threat, especially in Central Region: in Kasungu District, with the largest share of land in leaseholds in the country, villages have been moved (some twice) to accommodate prospective leaseholders, and to

counter this the new District Commissioner has felt the need to say that he is willing to reverse a chief's decision to grant land to a prospective leaseholder if he (the DC) feels such an allocation would be disadvantageous to the villagers. Nor is the compensation paid to smallholders who agree to move necessarily adequate. There is no requirement that villagers be given new land in the district, and the levels of compensation fixed by the Ministry of Agriculture are low, reflecting the notion that an individual is surrendering use rights rather than actually selling property, as is actually the case with regard to trees. In some areas better-off and more knowledgeable smallholders have apparently taken to registering their land as leasehold precisely to defend against the possibility of removal.

C. Fragmentation

Another factor frequently blamed for low smallholder yields is fragmentation, with farmers forced to expend scarce time and effort moving between two or three scattered fields. And while it is true that when a farmer's holdings are not contiguous there may be some loss of efficiency, such a system is not without its benefits. These separate holdings as they exist in Malawi are a rational response to the need for land in different microenvironments which can be used for different crops and at different times of the year. One field, for example, may be dambo land, a marshy area suitable for cultivation during the dry season only. Separate holdings also permit a smallholder to lessen the risk of crop loss. While one field may receive too little rainfall or be damaged by insects in a given season, another may not be affected. Although several studies (Mkandawire 1984; Trivedy 1988; Peters 1988) have mentioned in passing that a farmer's holdings may not be in a single location, the incidence of fragmentation in Malawi is not well documented at present. It may well be that individuals who claim to possess fields in several locations are actually referring to their rights to ask for land elsewhere rather than to fields they currently farm. Given the lack of data on fragmentation, our best guess is that the problem nowhere approaches the extremes found in Central Province in Kenya and in southwestern Uganda in the 1950s. There individuals often possessed numerous (six or more) fields so small and widely scattered that it was necessary to consolidate holdings to resolve (temporarily) the problem before registration could be undertaken (Sorrenson 1967; Lawrance 1960, 1963). There is no evidence that fragmentation in Malawi is of this magnitude.

D. Smallholder Registration

Registration of land is often seen as the means for correcting the failure of the customary sector to produce appreciable amounts of marketable surplus or even adequate amounts of food for smallholder households. This solution has been attempted both elsewhere in Africa and, in Malawi itself, in the Lilongwe Land Development Programme. The results of this pilot registration project, however, have been mixed, and it appears unlikely that the Government of Malawi will extend the project to other areas of the country.

In the early 1970s, when the program was first begun, it was envisioned that the Lilongwe Land Development Programme (LLDP) would accomplish several goals: raise production levels, produce an exportable surplus, increase government revenues, establish a pattern of increased investment by smallholders, and provide opportunities for the training a core of development workers who later might be deployed elsewhere in the country (Phipps 1976). By its registration of freehold individual title, the program aimed to provide smallholders with increased tenure security which would encourage investment in the land and work toward the creation of a class of progressive "yeoman" farmers. In

this the goals of the program were very much in line with the recommendations of the East Africa Royal Commission (1955), which saw provision of individual freehold title as the necessary first step in agricultural development in East and Central Africa. In Malawi, these ideas were expressed in a series of four land laws enacted soon after independence in 1964: the Registered Land Act, the Customary Land (Development) Act, the Local Land Boards Act, and the Land Amendment Act. The purpose of this legislation, according to President H. Kamuzu Banda, was to "revolutionize our agriculture and transform our country from a poor one into a rich one" by providing a system of land tenure which would end "uneconomical and wasteful" methods of land use and landholding (quoted in Simpson 1976, p. 458).

The LLDP was intended as a pilot scheme, with freehold registration to be carried out in an area of roughly 500,000 hectares at a cost of over 13 million kwacha (Phipps 1976) (the project has yet to be completed: 8 adjudication units of the original 47 remain to be done; 11,997 holdings have been registered). It was to serve as a model that might be later applied to the country as a whole. As it has actually been carried out, however, it has failed to match the original intentions of the early planners. Perhaps the most critical change was that land was registered as family land (ndunda) rather than in the name of an individual. Many in the local area reacted against the notion of individual title and instead demanded that land be registered on behalf of family groups. This change was apparently readily accepted by officials, who were only too willing to avoid the problems and expenses of demarcating and adjudicating very small parcels of land on behalf of individuals. As a result, large blocks of land have been registered as family land, with a single individual named as family representative and empowered to act on behalf of other family members. Another facet of the program ignored in its implementation is the requirement of consolidation of holdings. In establishing village boundaries, holdings have sometimes been included in one village that actually belonged to a family in another village. Rather than requiring that individuals trade parcels or arranging for smallholders to be compensated with land elsewhere prior to registration, project officials have left consolidation to be done on a voluntary basis—with the predictable result that it often has not been done at all. Both of these changes have led to a high incidence of disputes (Mkandawire 1984; Ng'ong'ola 1982; anon. n.d.).

Some researchers who have studied the LLDP (Mkandawire 1984; Ng'ong'ola 1982, 1986) have come out strongly against the project, arguing that it has emphasized local social and economic cleavages and concluding that its expense has killed the idea of applying the model elsewhere in the country. Others, however, notably Lilongwe Agricultural Development Division officials and local smallholders, are more tempered in their responses. LADD officials we spoke with call the program a success, citing the fact that initial negative responses of smallholders have been revised. They believe that one of the benefits of the program has been the system of extension, marketing, and credit that was first established for the LLDP and that has now been extended elsewhere in the country. Another benefit they cite is the fact that LLDP smallholders, as holders of freehold title, have the opportunity to cultivate burley tobacco—a few individuals, apparently, have banded together to register a single holding of 12 hectares, the requisite size for a tobacco license. As owners of freehold, smallholders also are eligible for compensation for the land itself should it be required for public use. In the past several years, extension of the railway line to Mchinji has led to the expropriation of significant areas of land in the LADD; while holders of customary land have been limited to compensation for buildings and other infrastructure, freeholders have been paid for the land as well as the development on it. This in fact has resulted in demands from the neighboring farmers that freehold registration be extended to their area, an abrupt about-face from the early days of the project

when neither LLDP residents or their neighbors were in favor of the project. Their reasons for demanding freehold, though, have little to do with notions of "progressive farming."

Despite the fact that many local residents now favor registration, the program cannot be said to have achieved the results that had originally been projected. Individual holdings remain small and fragmented, as elsewhere in the country, and production levels have not risen to any extent. Nor, outside of the peculiar requirements for burley cultivation, can registration be said to have resulted in increased incomes for smallholders. For all intents and purposes, there is no land market, and sales of even small portions of land remain rare. Moreover, possession of a transferable title has not led to use of credit from commercial banks, which refuse to lend against land registered as a family rather than an individual holding. Over 90 percent of the transactions registered at the Lilongwe Title Registry (in the Department of Lands and Valuation) concern the nomination of a new family representative. The most valuable products from the LLDP are the extension, credit, and marketing systems, and these have now been established in other parts of the country, albeit less extensively. These findings are not at odds with those of studies of registration projects elsewhere in Africa, which have concluded that it is these facilities, rather than registration itself, that are the most important factors in increasing agricultural productivity (Dickerman et al. 1989).

E. Short- and Long-Term Prospects

What then needs to be done to increase smallholder production? The answers are not simple, for the problems facing the customary sector are massive and not easily alleviated. Demographic pressures will continue to shrink holding sizes and increasing numbers of households will find themselves unable to provide for even their own food needs. In the future the most viable interventions are likely to be those that move households away from dependence on farm production toward off-farm sources of income. But these are long-term goals and, at the very least, beyond the terms of reference of this study. For the short term, given the existing land and labor constraints, interventions should be targeted to permit smallholders to intensify production, both by increasing access to inputs which will raise yields and by introducing crops that can be cultivated in the off-season.

F. Recommendations

1. Do not replicate the smallholder registration exercise undertaken by the Lilongwe Land Development Programme elsewhere in the country. Such registration programs are very expensive and experience both in Lilongwe and elsewhere in Africa has not demonstrated that the returns to the smallholder from possession of a land title outweigh the costs of compulsory, systematic registration.
2. Give smallholders the opportunity to grow crops, specifically burley tobacco, whose production is currently controlled by the Special Crops Act. Production of a valuable crop such as burley could produce significant amounts of income from very small amounts of land (.1 ha.) that could be used to purchase fertilizer and other inputs to raise maize production. This suggestion has been made recently elsewhere, and it is a very important one not only for its potential for the customary sector but also for its ability to decrease demand for leasehold estates. While smallholders have not been able to generate high

yields of other types of tobacco (see appendix table 2), we feel that this is due to a combination of low net revenues caused by ADMARC marketing policy and insufficient attention to extension and input supply.

In order to ensure that smallholders actually are able to break into this market, a certain proportion of the tobacco quota should be allocated specifically to the customary sector. Because it will also be necessary to provide inputs, extension advice, and marketing services for smallholder production, consideration should be given to the establishment of a Smallholder Tobacco Authority, to be structured along the lines of the Smallholder Tea Authority (this is discussed further in the section on government schemes). In addition, because tobacco has traditionally been considered a crop appropriate for men rather than women, it will be necessary to monitor that women are given as much opportunity as men to participate in burley tobacco production.

3. Give special attention to establishing programs which consider the needs of households that are labor- as well as land-poor. While the opportunity to cultivate burley tobacco and to sell surplus crops to private traders at better prices than paid by ADMARC are measures that will benefit households whose principal constraint is lack of land, their effect on labor-poor households is likely to be the opposite, raising the prices that they must pay for food they cannot raise themselves. Several interventions should be considered:
 - a. Credit for fertilizer and other inputs specially aimed at the poorest families. Studies of existing credit facilities have shown that the relatively better-off smallholders are more likely to belong to farmers' clubs and to use credit, while the poorer ones go ignored. There is a need to establish credit programs aimed to reach labor-poor households, including the many that are female-headed.
 - b. A fertilizer-for-work program which permits off-season labor to be exchanged for fertilizer.
 - c. Introduction of marketable, dry-season crops whose cultivation would augment rather than compete with existing cropping patterns. One crop which might be grown on dambo land is chilies. Production possibilities, marketing requirements, and potential returns need to be investigated for this as well as other off-season crops.
 - d. Serious efforts--perhaps begun with NGO support--at generation of small-scale nonfarm enterprises which could operate during the dry season or after harvest. Food processing, woodworking, and leatherwork are among the activities which could be considered.

III. GOVERNMENT SCHEMES TO INCREASE SMALLHOLDER PRODUCTION OF CASH CROPS

Since independence, Government has been aware of the need to increase the ability of smallholders to earn incomes from cash crops. In addition to promoting several types of tobacco and providing, through ADMARC, a marketing outlet for surpluses of maize and groundnuts, it has attempted several experiments to assist smallholder farmers to produce crops formerly grown on colonial-era estates and still reserved to the estate sector under the Special Crops Act. The most important of these crops are burley tobacco, coffee, and tea. In addition, Government has promoted irrigated rice schemes in the floodplains around and downstream from Lake Malawi.

In recent years there has been concern about the viability of government smallholder schemes. The high investment and recurrent costs of the government rice projects make them poor candidates for large-scale replication (although a large irrigation project for the lower Shire Valley is in the course of preparation--see SFCD 1989). The high turnover reported on the tobacco and other settlement schemes, especially among participants belonging to the Malawi Young Pioneers (MYP) (Pachai 1978), suggests that they are not sufficiently attractive to retain smallholders in spite of the intensive provision of services and relatively large holdings.

A. Burley Tobacco Schemes

These are of two types: settlement schemes, for which farmers are recruited on the understanding that they will be able to remain permanently on the land they are allocated; and pilot schemes, for which farmers are recruited on the understanding that they will leave to begin farming on their own after they have mastered the techniques required by the crop. Settlers come with their families; pilot-scheme participants arrive unmarried. We obtained information about three of the four burley schemes from the ADDs which administer them (Sopani Settlement and Kafulu Pilot Schemes in Kasungu ADD, and Mulomba Settlement Scheme in Blantyre ADD; the fourth is Kasama Pilot Scheme in Chitipa RDP). Further data were obtained from Government of Malawi (1986). We visited Sopani during a day trip to the Kasungu ADD.

Table 9 gives summary data on the four schemes for 1985/86, the only year for which we have comparative information. The two settlement schemes are five years older than the pilot schemes and have more farmers and a larger average farm size (see footnote ** to table 9). They have substantially lower burley yields and receive lower average prices, a reflection of quality. On the other hand, when the performance of all four schemes is compared with the national average, even the settlement schemes appear successful. In 1985/86, the average burley yield on leasehold estates was 1,069 kilograms/hectare, and the average price was 2.91 MK/kilogram. The pilot schemes thus had double the yields and higher prices than did the estates, and the settlement schemes had 50 percent higher yields and somewhat lower prices. All four schemes had substantially larger gross revenues per hectare of burley than did the estates (3,111 MK/ha.), and we can conclude that the smallholder burley schemes have exhibited remarkable success in demonstrating the feasibility of smallholder burley production (with intensive supervision). Why, then, has turnover been so much higher on the settlement schemes than on the pilot schemes?

TABLE 9
Smallholder Burley Tobacco Schemes
1985/86

	SETTLEMENT SCHEMES		PILOT SCHEMES	
	Sopani	Mulomba	Kafulu	Kasama
Year established	1977/78	1977/78	1982/83	1982/83
Arable hectares	1,040	210	89	318
Farmed hectares	600	210	89	231
No. of farmers	171	58	37	48
Farmed hectares/farmer	3.51	3.62	2.41	4.81**
Burley hectares/farmer	1.0	0.4	0.6	0.6
Burley yield (kg/ha)	1,516	1,565	2,000	2,021
Average price/kilogram (K)	2.53	2.69	3.49	3.16
Gross revenue/hectare	3,835	4,210	6,980	6,386
Gross revenue/farmer	3,835	1,684	4,188	3,832
% turnover* (previous 4 years)	54%	43%	4%	0%

Source: Government of Malawi 1986.

* Turnover calculated as number departing since 1981/82 divided by number present in 1981/82.

** Elsewhere in the report on which this table is based, the average farmed area per farmer on Kasama is given as 2.5 ha. We have no explanation for the difference between the two.

Security of Tenure

Formal tenure security on both the settlement and the pilot schemes is very low. Farmers are allocated land by a Land Allocation Committee and can continue to cultivate on the condition that they conform to the schemes' directives on cropping pattern and technique. They can be evicted if their performance falls too far below the norm. This arrangement is, in legal terms, no more secure than that prevailing on the estates: one can consider that the government is essentially acting as an estate-owner. In fact, however, evictions have not been a major factor; on settlement schemes they are greatly outnumbered by voluntary departures. The one exception to the low rate of evictions is widows, who are not permitted to take over after their husbands die (an adult son can, however). The pilot schemes inform their participants in advance that they are there only temporarily, which would seem to suggest an extra measure of insecurity. In fact, however, pilot schemes exhibit very low turnover compared to the settlement schemes, as table 9 so clearly shows.

Voluntary departures may have two apparently contradictory causes. The first, which is most commonly heard at various levels of the Ministry of Agriculture, is that farmers in settlement schemes are discouraged by the low payments they receive for burley: since the returns are little better than they had before, they go home. The second is that settlers' motives in joining the schemes in the first place were to accumulate cash to establish themselves in their home areas; departures therefore occur when people have satisfied their cash needs. Both explanations are probably true to some extent: individuals are not homogeneous and neither is their success on the schemes. A third explanation (Government of Malawi 1986) is that settlers are frustrated by the "lack of consideration for them for either permanent settlement or sublease of their plots. As a result, they are demoralised, frustrated and uncertain of their future. They are suspicious of Government intentions" (p. 14).

Insecurity of tenure thus appears to be a contributing factor in farmers' decisions to leave the schemes voluntarily. A clear Government response, permitting settlers to settle permanently with written guarantees (such as leasehold title) unencumbered by restrictions, would probably increase morale and certainty and reduce frustration. On the other hand, we feel that the principal problem with the settlement schemes has been the low net revenues the farmers receive from burley.

Incomes of Farmers

The pilot schemes sell burley directly to the Auction Floors and pay farmers the entire amount after deducting direct marketing costs and loan reimbursements. The settlement schemes, on the other hand, sell to the ADDs and pay farmers prices which are similar to those received by tenants on private leasehold estates and by smallholders for the other types of tobacco from ADMARC. The ADDs then transfer the balance to a Burley Fund held by the Treasury, which is inaccessible to the schemes or even the ADDs. In 1986, the Burley Fund received 86 percent of the value of the crop from Mulomba and Sopani Schemes, and the farmers only 14 percent.

The principal explanation for differential treatment is that the pilot-scheme participants are being trained for participation in commercial farming and therefore should experience conditions similar to those they will face when running their own estates, whereas settlers are beneficiaries of what amounts to better-organized customary farming. The reality is that pilot-scheme farmers receive substantially larger incomes from burley than do settlement-scheme farmers, and farmers at Sopani are well aware of their disadvantage compared to the nearby Kafulu pilot scheme. At Kafulu, many of the farmers earned more than K4000—the annual salary received by an entering B.A.-holder in the Civil

Service--from burley sales in 1988. One of the most successful farmers at Sopani received only about K1000 from burley (and K2500 from maize) this year, and many farmers made nothing or even suffered losses after credit was deducted.

We consider the differential policy on prices received for burley by settlement and pilot-scheme farmers to be unjustified. The reality is that settlement scheme farmers are no more "settled" than pilot-scheme farmers and, furthermore, do not benefit from the prospect of obtaining leasehold estates when they leave. The ability of settlement scheme farmers to produce burley with higher gross returns per hectare than leasehold estates is even more remarkable in the light of their low net incomes; both farmers and scheme management deserve a great deal of credit for this performance.

B. Irrigation Schemes

Government irrigation schemes have been successful in producing large quantities of rice for both local and export sale. The achievement has been expensive, however: construction costs range up to \$US10,000 per hectare and recurrent costs for maintenance and management are very high. They also benefit relatively few farmers. On the other end of the spectrum, self-help irrigation schemes are very popular at present because of their very low construction costs (about \$500 per hectare for the government) and also because of their appeal to current thinking about the importance of participatory development. On the other hand, they are unlikely to produce yields per hectare anywhere near as high as those of the government schemes and are much more subject to collapse due to internal disputes or short-run production problems.

Security of Tenure

Land tenure arrangements on government irrigation schemes are essentially the same as those on the dryland tobacco schemes: land is administered by a Land Allocation Committee, and farmers have the right to occupy land as long as scheme-directed farming practices are observed. In other words, there is no formal security for participants. As on the tobacco schemes, however, in practice very few farmers have been evicted. At Domasi scheme, on which the following analysis is based, voluntary departures are less frequent than on the tobacco schemes: 80 percent of the original farmers (the scheme began operating in 1975) are still participating. This may be attributed to the fact that nearly all the participants are local people who continue to live in their villages of origin and "commute" to work on the scheme.

Management is beginning to be decentralized; responsibilities for maintenance of secondary canals and for credit reimbursement have been devolved on thirty-nine farmer clubs, organized by village of origin. While this change is likely to be beneficial in terms of reducing the scheme's recurrent costs, it may impose a new degree of insecurity: the condition that farmers participate in maintenance in order to continue on the scheme.

Self-help schemes should have relatively minor land tenure problems, since they are on customary land. They may, however, increase local income disparities just as government schemes do. Farmers whose land is irrigable will gain and the others will not, unless some form of consolidation or reapportionment of land is carried out. Without detailed understanding of the distribution of irrigable land in a community benefiting from a self-help scheme (by gender and social stratum, for example), we cannot predict the outcome. Unlike other community projects such as school construction,

irrigation requires perpetual solidarity, especially for maintenance and water delivery. Communities must be able to induce their members to maintain enthusiasm even in bad times (Mzembe, "The Present ...").

Incomes of Farmers

Farmers on the government schemes may sell their rice either to ADMARC or to private traders. In recent years, there has been some diversification, especially during the winter season when there is insufficient water for a second rice crop (winter water availability has decreased over time due to increased upstream uses). Maize is the primary winter crop, but many farmers grow vegetables as well. There is one indication that incomes on the schemes are not high enough to satisfy family needs: most farmers continue to cultivate their customary holdings. This creates shortages of family labor during peak periods. On the other hand, irrigation revenues appear to be high enough to enable farmers to hire wage labor to compensate for these periodic labor shortages.

The profitability of self-help schemes is likely to be high, at least in the early years. Thereafter, as international experience has shown (Bloch 1986; University of Zimbabwe 1984), incomes both within and between self-help schemes become skewed, and the schemes become vulnerable. The less successful farmers--and everyone on less successful schemes--become less willing to contribute to maintenance and to adhere to water delivery schedules, and productivity suffers even more. Without a fair amount of outside assistance in extension and irrigation management (which Government is beginning to provide through the Irrigation Branch), we are not sanguine about the prospects for the uniform success of self-help schemes.

C. The Smallholder Tea Authority: A Model for Other Crops?

Tea production was the exclusive province of estates founded during the colonial period, which continue to operate under freehold tenure to the present time. At independence, Government established the Smallholder Tea Authority (STA) under the Special Crops Act to provide small farmers with the necessary guidance and support to produce tea profitably. It operates in the few favorable climatic zones in Thyolo and Mulanje Districts. Beginning on public land and gradually extending into customary land divided into Tea Blocks, the STA has enrolled nearly 5000 smallholders, including 1300 women, and has planted about 2400 hectares. There is limited room for expansion--perhaps about 1200 hectares.

Security of Tenure

Participant selection is conducted by STA field assistants; the principal criterion is demonstrated farm management ability on customary crops. Once the tea is planted on the farmers' land, farmers are subsidized for the five years before tea output reaches economic levels but repay the STA thereafter through a "capital cess" subtracted from crop payments when the tea is sold to the factory. Despite the large number of services provided the farmers (credit, extension, transport of the crop to the tea factory), the STA is self-supporting apart from government payments of STA staff salaries amounting to K120,000 per year.

Farmers with plots on the public land are subject to approximately the same formal insecurity as on the dryland schemes discussed above; the field assistants can, but rarely do, evict growers who do

not make acceptable use of the land. There are virtually no voluntary departures. Farmers cultivating tea on their own customary gardens obviously cannot be evicted, but the STA can refuse to provide services or to assist in marketing.

Farmer Incomes

Green leaf yields are lower than on the private estates, but quality as measured by average auction prices is higher (in 1989, 128 pence/kg. in London for STA tea, compared to 95 pence for the estates). Farmers received an initial payment of 12 t./kilogram upon delivery, and a second payment of approximately the same amount after the auction sales are completed. Net returns for the average farmer on 0.5 hectare are about K500 per year.* While this is not high compared to Kafulu, for example, given the limited land and employment opportunities in Thyolo and Mulanje, districts smallholder tea production has made a substantial contribution to local incomes.

One problem is that tea is not economical for the smallest of smallholders. An area of 0.5 hectare is considered the minimum; it is now the average. This implies that farm families with less than 1.5 hectares or so--the majority in the Southern Region--will not be able to profit from participation in tea production without risking their food security. They are constrained to do as they have in the past: work as casual labor on the estates or perform ganyu labor on the farms of more prosperous smallholders.

D. Recommendations

1. Determine a uniform system of tenure on settlement, pilot, and irrigation schemes. At present, farmers on all government schemes have no formal security of tenure. They are in fact tenants at the will of the estate-owner, Government. On pilot schemes, the insecurity is deliberate: farmers are to be "weaned" after five years or so. Yet many settlers depart even more rapidly. While we cannot prove that insecurity is the principal contributor to turnover, we feel that written contracts (permits to occupy in the short term and renewable, inheritable leases after five years or so) will remove an element of ambiguity in the relationship between farmers and schemes. They may also permit farmers to obtain medium-term credit more easily, provided that Government has more success in targeting credit to smallholders.
2. Determine a uniform system of crop payments on tobacco schemes. Settlers are disadvantaged in comparison to participants in pilot schemes. The former may be too close to the margin, and the latter may earn unjustifiably high incomes, especially since the pilot schemes' role as incubators for future estate-owners will change if our recommendation on burley licensing is followed. We propose an intermediate solution: Participants should be paid the full value of their marketed output after deduction of direct social overhead costs (scheme management, provision of adequate infrastructure, and marketing). This

* We did not obtain information on returns per person-day. The STA considers, however, that smallholders on 0.5 ha. do "substantially better" than tea estate laborers, who are paid about K1.75 per day.

would be similar to the situation of smallholder tea and would probably amount to 50-60 percent of the auction floor price rather than the 15 percent currently received by settlers or the 80-90 percent received by pilot-scheme participants.

3. Investigate intermediate irrigation technologies. Government schemes are too expensive and self-help schemes too vulnerable to self-destruction. Models of irrigation systems of intermediate size (50-200 ha.) and intermediate capital cost are in use in many countries and appear to diminish the problems associated with both extremes. The optimal solution on social arrangements appears to be some security of tenure (such as medium-term renewable leases) together with professional management for the first five to ten years, after which farmer production groups assume increasing responsibility. High yields can therefore be associated with low recurrent costs.
4. Establish pilot schemes for smallholder production of tree crops. Such crops as citrus, cashews, and macadamia nuts can probably be grown successfully by smallholders organized on the model of the STA. This could be accomplished on farmers' own land, but we feel that there are advantages to the tea model, that is, beginning on public land. Since the logic of the Special Crops Act is under reconsideration for burley, we see no reason why tree crops should be any different. The strong market for high-quality cashews and macadamias should support a fair amount of initial investment by Government in such schemes.
5. Conduct an inventory of areas suitable for settlement within the context of the national land use study. Settlement schemes have thus far not accomplished the objective of helping to reduce land pressure in the most densely populated regions of Malawi. Most of the settlers on current schemes come from the district in which the schemes are located, and most of the schemes are not in the most land-short districts. While resettlement cannot by itself solve the land problem, it can relieve some pressure by providing access to land for food-deficit families, most notably female-headed households. We suggest that settlement planning be conducted more with an eye to providing land to the functionally landless rather than to experimentation with smallholder production of special crops.

IV. LAND AND TREE TENURE: ENVIRONMENTAL CONSIDERATIONS

While this subject is not in our terms of reference, we consider that any discussion of land tenure is inadequate without reference to it. In this section we present brief observations on some of the principal areas in which land and tree tenure issues interact and aggravate some of the problems we have previously discussed.

Malawi has made commendable progress in afforestation, especially compared to countries of similar population densities such as Burundi and Haiti. Yet most of its success has come on public land designated as Forest Reserves and land appropriated for fuelwood plantations at their edges and near cities. There is still much to be done to meet the growing demand for fuelwood, especially by rural residents and estates, who together consume at least 80 percent of annual production. It is clear that in Malawi as elsewhere, tree tenure and land tenure considerations contribute to the explanation of Government's difficulties in promoting reforestation, soil conservation, and watershed management. These difficulties in turn have undoubted negative consequences for long-run trends in agricultural productivity.

A. Public Land

Which Department Owns Government Trees?

The Forestry Department is responsible for tree-planting on gazetted reserves on public lands. The land on which they are planted, however, is under the control of the Commissioner for Lands. The Commissioner has the authority to designate different land use, for instance by granting leasehold titles without the authorization of the Forestry Department, and has done so. Other agencies of government and parastatals, notably the Ministry of Works, the Post Office, and ESCO, are empowered to cut trees in reserves where they interfere with service extensions--again without consulting the Forestry Department. One can envision a situation where a road is constructed, with accompanying drainage structures, in a manner that negatively affects a watershed through which it passes.

Encroachment

Local residents do not always respect the sanctity of the forest reserves, although Malawians appear to do so more than residents of other countries with which we are acquainted. In certain areas, however, the problem is persistent and thus far insoluble. Local people not only cut firewood, but also clear patches for gardens. According to the Forestry Department, the most serious cases are in the Mulanje reserve, where encroachment began as early as 1960; along the escarpment in Dedza District; and in Mangochi, where an attempt was made to extend an old reserve and long, drawn-out negotiations ensued. Encroachment is, of course, an inevitable result of the intense pressure for land and is unlikely to disappear in the foreseeable future.

B. Private Land: Fuelwood Use by Tobacco Estates

It has been estimated that tobacco curing consumed 2 million of the 8.5 million cubic meters of fuelwood used in 1983, or almost one-fourth. Three-fourths of this was in the estate sector, most

intensively for flue-cured tobacco. It is known that most of the estates' wood comes from indigenous natural forests on customary land (about which see below) rather than from the estates themselves. While leases have a covenant requiring that 10 percent of the area of each estate be afforested, very few estates approach this figure--if indeed they have any trees planted at all. Estates supply themselves with existing timber until it runs out, and then they purchase wood from commercial cutters who operate, essentially uncontrolled, in forests on customary land.

We know very little about the economics of tree-planting for fuelwood production on the estates. Surely, however, given the large amounts of otherwise unutilized land they seem to have, planting trees must be a relatively low-cost investment. The problem is probably not strictly economic, but rather stems from the unique situation in which the estates find themselves. On all but the smallest estates, there are three groups of actors: the leaseholder, the farm manager, and the tenants. None of them has all of the interests which make tree-planting attractive, and in the absence of enforcement of the covenant, they do not do it. The latter two stand to gain nothing, but it is they who must do the work in whatever time remains after tobacco and food production. The leaseholder may see the interest but has little control. Another consideration is that leaseholders themselves may have a planning horizon much shorter than the term of the lease: a few years like 1987/88 and only the most greedy leaseholder could retire comfortably or invest in a more reliable business (on the other hand, a few years like the early 1980s could drive many of them to bankruptcy). In any event, without enforcement, the situation is unlikely to change.

C. Customary Land: Cutting and Planting Trees

It can be said that there are two ways of gaining greater security of tenure on land in customary systems like those prevailing in Malawi: planting trees, and cutting trees. This apparent paradox results from two different aspects of customary tenure. Most customary systems accord tenure of trees to the person who plants them (Fortmann and Bruce 1988). Since the trees belong to someone, the potential uses of the land on which they sit are constrained, and the tree-planter most often ends up as the land-"owner" as well. Knowledge of this, interestingly, may lead communities to resist individuals' efforts to plant trees; there are cases elsewhere in Africa where others with rights to the land have uprooted newly planted seedlings to prevent loss of those rights.

In many African societies, the first person to clear the land could claim that it was his (the "right of the axe"--see Bohannan 1963). We are not aware if this is true for Malawian ethnic groups, but there is another, more subtle way that cutting trees establishes rights to land. The indigenous natural forests, which still cover an area more than twice as large as the gazetted reserves, are part of customary land and are open to the use of members of the community (and others, as discussed below). Chiefs and village headmen have the responsibility to allocate land, and if there is nowhere else available, they may grant a person access to a piece of natural forest. The land thus passes from community access to individual use, but as long as the trees are there, the community considers the trees to be fair game. The natural response of the new landholder is to cut the trees as quickly as possible. In other words, the "tragedy of the commons" is not averted by individualization.

There is another aspect to the problem of indigenous natural forests: the commercial cutters who, like community members, have access to them and whose main clients are the tobacco estates. The forestry laws require commercial cutters to obtain permits, but the system appears not to work very well.

The Forestry Department has had little success in controlling the rapid cutting of indigenous natural forests. People resent attempts to extend reserves and even efforts to plant trees to protect critical watersheds. Farmers with little land cannot accept the tradeoff of current food and fuel for long-term environmental improvement under the present state of affairs.

D. Recommendations

1. Resolve government tree-tenure conflicts. The Commissioner of Lands and the agencies empowered to cut trees on reserves should be required to gain the approval of the Department of Forestry before acting. On the other hand, the Department of Forestry should institute joint planning with the Commissioner of Lands to determine where future conflicts of interest are likely to occur.
2. Establish positive incentives to reduce encroachment. The Department of Forestry should work closely with chiefs, ADDs, and RDPs to determine whether alternative lands or activities can be found for persistent encroachers. On the other hand, the incentives should not be so great as to tempt others to begin encroaching in order to benefit from them.
3. Enable the DLV to enforce the afforestation covenant on estates. This goes hand-in-hand with the general recommendation to increase the capacity of DLV to fulfill its assigned duties (see section I). There should probably be a distinction made between estates growing flue-cured tobacco (where afforestation requirements should be even greater than 10 percent given the fact that 2 hectares of woodlots are required to supply 1 hectare of tobacco) and those growing burley, whose wood use is substantially smaller.
4. Give legal protection to tenants who plant trees (compensation). Estate tenants have no incentive to plant trees on the land they are assigned because their tenure is uncertain, as is the right to benefit from tree products. Regulations could induce tree-planting if tenants were given such a right as well as compensation for improvements upon the end of the tenancy agreement (see section I for our recommendation for a legally binding tenancy contract).
5. Study the feasibility of commercial fuelwood production. There is no a priori reason to reject the possibility that production of eucalyptus or Gmelina could be a commercially profitable activity for the private sector. This could be done in two possible ways: either some estates could specialize in forestry or a commercial company such as the proposed Tree Planting Service Company could offer planting and maintenance services to the estates to enable them more easily to meet the afforestation covenant.
6. Give legal protection to the trees on newly assigned customary land. By stating that existing trees on a plot assigned to an individual are part and parcel of the plot, legislation could discourage the prevalence of immediate cutting of natural trees and encourage their more rational exploitation.
7. Investigate the creation of community forest reserves. In most places, community forests and woodlots have been a failure, principally because the obligations and rights of use have been poorly defined. We consider that the failures are not due to the idea but rather to its

execution. Tree tenure (responsibility for maintenance, right to use tree products, cutting and replanting decision-making) is rarely spelled out and even more rarely determined with the perspective of the economic self-interest of participants as well as the social relations among them. There are some African models worth investigating which might be compatible with Malawian realities.

V. CONCLUDING REMARKS AND SUMMARY OF RECOMMENDATIONS

The three most serious land tenure-related problems in Malawi are the rapidly decreasing average size of smallholder farms, the rapidly increasing size of the estate sector, and the particularly unfortunate tenancy arrangements on the estates. They are clearly related. As we have observed, the greatest threat to the security of tenure of smallholders now comes from the estates, not from institutional arrangements within the customary sector. Furthermore, the expansion of the estate sector, while it has been associated with rapid increases in export earnings from cash crops, has not engendered a technical revolution in Malawian agriculture.

This is because of the social arrangements which prevail on the estates. For agricultural productivity, the tenure that is most important is the tenure of the farmer, not the tenure of the landowner. Freehold or leasehold combined with exploitative tenancy or sharecropping arrangements may lead to worse land use, lower productivity, and a more unequal distribution of income than any conceivable customary system. The only possible justification for estate agriculture is that its productivity can be higher as a result of economies of scale, access to credit, and commercial motivation; the Malawian estates have failed to meet this criterion.

There is little wrong with the customary sector, other than small farm size, that intensified and more appropriate extension and credit services cannot handle. We feel that customary land tenure arrangements are basically adequate in terms of the security they provide to farmers, and that conversion to freehold or leasehold would not contribute to the prospects for intensification. Government has established a support system which is quite effective in reaching the larger smallholders; it is the smallest farms, as other observers have pointed out as well, that are in need of services targeted specifically at them.

A. The Estate Sector

Various measures need to be instituted that will, on the one hand, encourage more intensive land use on existing leasehold estates, and, on the other, decrease demand for such estates. Perhaps the single most important step toward these ends is the abrogation of the provision of the Special Crops Act limiting burley and flue-cured tobacco production to the estate sector; this provision has been responsible for much of the demand for leasehold estates and its repeal would significantly diminish applications for leasehold. Similarly, an increase in ground rents to a more economic level and providing the Department of Lands and Valuation with the necessary staff and equipment for their collection would also make leasehold estates less attractive. Other measures aimed at intensifying production decreasing demand include the imposition of a land tax on freehold estates; enforcement of the covenants of estate leases; establishment of a limit to the total area of the estate sector; imposition of a maximum size of 100 hectares on new estates and a review of the justification for existing estates larger than 100 hectares; institution of a legally binding tenancy contract; limits on

renewal of leases, made contingent on a thorough survey of land use and productivity; and expansion of the Estate Extension Service in terms of both its staff and its mandate.²

B. The Customary Sector

Smallholders operate under a different set of conditions than do estate holders, and the principal need is to permit them to increase their incomes and obtain better yields from the small areas of land they cultivate. Parallel with ending the estate sector's monopoly on burley and flue-cured tobacco production, smallholders need to be given the opportunity to grow high-value crops. For the smallest of the smallholders, however, additional programs are necessary which consider the needs of households that are labor- as well as land-poor. These might include: credit for fertilizers and other inputs specially aimed at the poorest families; a fertilizer-for-work program; the introduction of marketable, dry-season crops whose cultivation would complement existing cropping patterns; efforts at generation of small-scale nonfarm enterprises which could operate during the dry season or after harvest. This can be done within the existing customary tenure system. There is no need to replicate the smallholder registration exercise undertaken by the Lilongwe Land Development Programme elsewhere in the country.

C. Government Schemes

Despite a wide range of government schemes (settlement, pilot, and irrigation), there are a number of common problems that need to be addressed. Among the steps to be taken are: determination of a uniform system of tenure on the various schemes, establishment of a uniform system of crop payments on tobacco schemes, investigation of intermediate irrigation technologies, establishment of pilot schemes for smallholder production of tree crops, and undertaking an inventory of areas suitable for settlement within the context of the national land use study.

D. Tree Tenure

The need to manage Malawi's forests and encourage agroforestry is common to a number of government ministries and to both the customary and the estate sectors. There are a number of steps that can be taken which span this range of interests. They include: resolution of tree-tenure conflicts internal to government, establishment of positive incentives to reduce encroachment, enabling the DLV to enforce the afforestation covenant on estates, provision of legal protection to tenants who plant trees (compensation), and granting of legal protection to the trees on newly assigned customary land. Additionally, it would be useful to investigate the creation of community forest reserves and the feasibility of commercial fuelwood production.

²In our original report to USAID/Malawi, we recommended that a socioeconomic study of the estate sector be undertaken. This has since been done under the direction of Dr. Richard Mkandawire, Bunda College, Malawi. See Richard Mkandawire et al., "Beyond 'Dualism': The Changing Face of the Leasehold Estate Subsector of Malawi" (Binghamton, NY: Institute for Development Anthropology, 1990).

APPENDIX TABLE 1
Register of Leasehold Land in Mzuzu ADD
Registered to Other than Individuals

BLOCK NO.	AREA (ha)	DRAWING NO.	OWNER	YEAR EST.
764	16.48	1189	Apostolic Church	1983
	20	1942	Kamanda Smallholder Coffee Authority	1987
	20	1924	Mr. Kapita Smallholder Coffee Authority	1987
796	22.4	1224	M.Y.P.	1984
	23.04	1441	Mzuzu Agriculture RTC	1983
836	24	1265	Small Holder Coffee Authority	1984
864	24	1293	Smallholder Coffee Authority	1984
	30	1411	Parks and Wildlife Government	1986
	56	1943	Kamwanjiwi Smallholder Coffee Auth.	1987
305	72.75	617	Press Farming	1978
	85	1461	Research Department at Mkondezi	1986
625	90	1358	Phembe Agriculture	1983
268	96	580	Mzenga ADMARC	1978
107	97	4398	Vizara Rubber Estates	
106	97		Chombe Tea Estate	
628	132	1037	Smallholder Coffee Authority	1983
	240	1359	Dep. Agric. Eehleni	1985
306	350	618	Press Farming	1979
365	372	698	Press Farming	1979
	384	1367	Phwezi Foundation & Training	1985
421	392	779	ADMARC Mzenga Extension	1980
92	402.83	1006	Lusangazi and Katoto Estates	
6	414.57	2100	Spearhead Enterprise	
1	415.79	2100	Spearhead Enterprise	
2	423.08	2100	Spearhead Enterprise	
153	440	480	Chipunga MYP	
5	440.49	2100	Spearhead Enterprise	
87	445.34	39	Ekwendeni Admarc Farm	
110	447.37	151	Mzenga Admarc Farm	
18	453.44	2100	Spearhead Enterprise	
85	544	1134	Ministers Farm Choma	
3	550.61	2100	Spearhead Enterprise	
4	563.56	2100	Spearhead Enterprise	
105	588.7	1079	The H.E. Farm Admarc	
89	616	2100	F.C.T. Estate at Mbuzi Mzumara	
132	840	279	S.M. Gondwe (MYP Mbalachanda)	
684	864	1098	Smallholder Coffee Authority	1983
109	898.79	1079	General Farming Estate	
76	1821.86	131	Kamwe Estate	
176	2660	353	Mzenga Admarc	
Total	16474.1	40		

APPENDIX TABLE 2

Tobacco Statistics 1978/79 to 1988/89

YEAR	OUTPUT (kg)	AVE.PRICE (t/kg)	AREA (ha)	NO. OF GROWERS	NO. OF TENANTS	NO. OF ESTATES	AVE.YIELD (kg/ha)
A. Flue-cured							
1988/89 ^a	20000000	n.a.	14616	611	-	n.a.	1368
1987/88	20742710	528.27	16774	584	-	n.a.	1237
1986/87	24463803	395.97	16785	571	-	745	1457
1985/86	21033583	302.75	15927	429	-	589	1321
1984/85	22281477	237.54	16196	333	-	499	1376
1983/84	24912040	222.52	15221	244	-	410	1637
1982/83	21658721	187.08	13745	196	-	355	1576
1981/82	22608887	208.81	13921	195	-	371	1624
1980/81	19714191	179.33	14892	255	-	440	1324
1979/80	26300872	100.95	18729	269	-	524	1405
1978/79	25154944	157.99	18948	253	20	529	1326
B. Burley							
1988/89 ^a	55000000	n.a.	54651	7593	n.a.	n.a.	1006
1987/88	45544118	524.47	51898	5659	n.a.	n.a.	878
1986/87	36789141	396.33	34524	4340	42152	4340	1066
1985/86	30189762	291.40	28240	3198	35432	3383	1069
1984/85	30372074	181.55	31503	3300	27170	3498	964
1983/84	29979131	172.49	26946	3189	24391	3411	1113
1982/83	41537061	130.71	39389	3854	46823	4032	1055
1981/82	27601972	216.24	23309	1869	24519	1980	1184
1980/81	18803533	231.61	15980	947	19985	1068	1176
1979/80	16685750	117.74	13808	723	18873	814	1208
1978/79	14901776	107.49	13790	601	16194	686	1082
C. Fire-cured N.D.							
1988/89 ^a	4459000	n.a.	26585	n.a.	-	-	168
1987/88	7563864	450.51	27446	40435	-	-	428
1986/87	9752562	327.48	38231	43895	-	-	250
1985/86	10888378	225.79	40780	42040	-	-	267
1984/85	12473070	151.53 ^b	41506	46177	-	-	301
1983/84	14668956	215.38	31400	42849	-	-	467
1982/83	7575885	287.54	37436	39406	-	-	202
1981/82	6520830	343.69	18920	37098	-	-	345
1980/81	9927718	174.97	25584	37186	-	-	388
1979/80	8616016	124.49	23679	42891	-	-	289
1978/79	11064350	108.42	38664	48975	-	-	286

YEAR	OUTPUT (kg)	AVE.PRICE (t/kg)	AREA (ha)	NO. OF GROWERS	NO. OF TENANTS	NO. OF ESTATES	AVE.YIELD (kg/ha)
D. Fire-cured S.D.							
1988/89 ^a	256000	n.a.	1177	n.a.	-	-	218
1987/88	423384	388.48	1886	3030	-	-	224
1986/87	483870	236.71	2639	4398	-	-	183
1985/86	473813	172.63	4006	6401	-	-	118
1984/85	598141	95.15 ^c	4385	7832	-	-	361
1983/84	1496144	174.96	3102	6330	-	-	482
1982/83	808060	197.39	3331	4828	-	-	243
1981/82	604009	199.64	3756	5443	-	-	161
1980/81	897171	131.29	1917	5443	-	-	468
1979/80	840544	88.28	1870	5308	-	-	450
1978/79	1223011	73.86	2231	6056	-	-	548
E. Sun/air cured							
1988/89 ^a	356000	n.a.	2639	n.a.	-	-	135
1987/88	559675	397.62	2876	4202	-	-	195
1986/87	908903	266.27	4847	5386	-	-	188
1985/86	954056	170.45	4985	5419	-	-	191
1984/85	1064535	106.57 ^d	7090	8192	-	-	150
1983/84	1938932	174.96	8033	8589	-	-	241
1982/83	663636	234.38	4223	6246	-	-	157
1981/82	1181624	276.17	4362	6883	-	-	272
1980/81	1329708	137.31	4503	6623	-	-	295
1979/80	1343523	85.93	4415	7332	-	-	304
1978/79	1626589	72.80	5683	8701	-	-	286
F. Oriental							
1988/89 ^a	300000	n.a.	746	n.a.	-	-	402
1987/88	161300	130.66	336	4296	-	-	480
1986/87	96609	n.a.	750	3000	-	-	129
1985/86	121494	81.50	273	6891	-	-	445
1984/85	128919	181.89	1189	3966	-	-	233
1983/84	334069	162.19	3440	11468	-	-	97
1982/83	184087	74.93	3018	15088	-	-	61
1981/82	614600	52.99	n.a.	n.a.	-	-	n.a.
1980/81	558447	53.19	2372	11722	-	-	235
1979/80	334700	51.64	766	12615	-	-	437
1978/79	445508	47.86	795	9844	-	-	561

Source: Tobacco Control Commission.

- For 1989, output is the quota established by the "trade"; yield is calculated by dividing output quota by estimated area planted.
- Plus 2,501,700 kg. sold by private treaty; price not known.
- Plus 192,800 kg. sold by private treaty; price not known.
- Plus 586,300 kg. sold by private treaty; price not known.

APPENDIX TABLE 3

Entries in the DLV Deeds Registry:
Complete List of Individual Leaseholds with 21-Year Term,
January and July 1985 to 1989

	MONTH	YEAR	AREA	DISTRICT	RENT
N = 7	1	1985	130	Dedza	
	1	1985	38.72	Kasungu	96
	7	1985	136.32	Kasungu	337
	7	1985	13.12	Kasungu	33
	7	1985	31.65	Kasungu	79
	7	1985	28.76	Kasungu	71
	7	1985	457.57	Mchinji	196
			457.57		
N = 15	1	1986	61.76	Kasungu	153
	1	1986	125	Kasungu	926
	1	1986	30.24	Mchinji	224
	1	1986	244	Mzimba	603
	1	1986	140	Salima	346
	7	1986	11.04	Blantyre	101
	7	1986	17.6	Dowa	44
	7	1986	22.88	Dowa	57
	7	1986	28.28	Kasungu	210
	7	1986	372	Mangochi	3720
	7	1986	15.36	Mchinji	114
	7	1986	25.12	Mchinji	63
	7	1986	83	Mzimba	615
	7	1986	104.48	Ntcheu	1045
	7	1986	46.88	Ntchisi	469
			1327.6		
	1	1987	3.14	Dedza	32
	1	1987	13.78	Dowa	138
	1	1987	10.24	Dowa	103
	1	1987	26.16	Dowa	262
	1	1987	10.88	Dowa	82
	1	1987	12.48	Dowa	93
	1	1987	11	Dowa	110
	1	1987	11.52	Dowa	116

MONTH	YEAR	AREA	DISTRICT	RENT
1	1987	17.8	Dowa	178
1	1987	95	Kasungu	235
1	1987	15.4	Kasungu	39
1	1987	31.25	Kasungu	232
1	1987	31.04	Kasungu	311
1	1987	96.75	Kasungu	717
1	1987	19.2	Kasungu	192
1	1987	114	Kasungu	1140
1	1987	26	Kasungu	260
1	1987	39.13	Kasungu	97
1	1987	27.5	Machinga	275
1	1987	18.88	Machinga	142
1	1987	272	Mangochi	2720
1	1987	29	Mchinji	290
1	1987	44.5	Mchinji	445
1	1987	19.84	Mchinji	199
1	1987	24.48	Mchinji	245
1	1987	21.6	Mchinji	216
1	1987	23.36	Mchinji	234
1	1987	13.28	Mchinji	133
1	1987	40.48	Mchinji	405
1	1987	132	Mzimba	979
1	1987	28	Mzimba	208
1	1987	19.2	Mzimba	192
1	1987	16.16	Ntchisi	210
1	1987	120	Rumphi	890
1	1987	39.76	Salima	398
1	1987	98.56	Salima	731
7	1987	13.76	Dowa	138
7	1987	17.4	Dowa	174
7	1987	11.64	Dowa	117
7	1987	31.52	Dowa	316
7	1987	10.56	Dowa	106
7	1987	14.4	Dowa	144
7	1987	21.12	Dowa	212
7	1987	28.75	Kasungu	72
7	1987	27.26	Kasungu	68
7	1987	43.52	Kasungu	436
7	1987	10.72	Kasungu	108
7	1987	32	Kasungu	320
7	1987	16.64	Kasungu	124
7	1987	14.08	Kasungu	141
7	1987	17.44	Kasungu	175

	MONTH	YEAR	AREA	DISTRICT	RENT
N = 57	7	1987	12.5	Mchinji	31
	7	1987	10.08	Mchinji	101
	7	1987	13	Mchinji	130
	7	1987	19.4	Ntchisi	48
			2001.9		
	1	1988	17.08	Chikwawa	163
	1	1988	11.36	Dowa	114
	1	1988	57.36	Dowa	574
	1	1988	10.04	Kasungu	101
	1	1988	64.76	Kasungu	658
	1	1988	23.04	Kasungu	231
	1	1988	20.16	Kasungu	203
	1	1988	86	Machinga	860
	1	1988	49	Machinga	490
	1	1988	27.25	Machinga	280
	1	1988	55.84	Mangochi	551
	1	1988	68	Mchinji	680
	1	1988	44	Mzimba	440
	1	1988	33.6	Mzimba	249
	1	1988	12.48	Mzimba	125
	1	1988	127	Mzimba	1271
	1	1988	49.5	Mzimba	367
	1	1988	13.76	Mzimba	138
	1	1988	14.13	Mzimba	142
	1	1988	23.68	Mzimba	237
	1	1988	53.02	Mzimba	531
	1	1988	34.56	Rumphi	346
	1	1988	17.6	Rumphi	176
	1	1988	61	Rumphi	610
	1	1988	10.88	Rumphi	109
	1	1988	16.8	Zomba	168
	7	1988	14.72	Dowa	148
	7	1988	21.28	Kasungu	213
	7	1988	31.36	Kasungu	314
	7	1988	27.04	Kasungu	271
	7	1988	69.56	Kasungu	696
	7	1988	48.64	Kasungu	487
	7	1988	27.68	Kasungu	277
	7	1988	19.2	Kasungu	452
	7	1988	10.88	Kasungu	109
	7	1988	34.56	Kasungu	346

MONTH	YEAR	AREA	DISTRICT	RENT
7	1988	24.18	Kasungu	242
7	1988	41.6	Kasungu	416
7	1988	153.75	Kasungu	1538
7	1988	10.4	Machinga	104
7	1988	41.92	Machinga	420
7	1988	188	Mangochi	1880
7	1988	161.92	Mchinji	1620
7	1988	45.12	Mchinji	452
7	1988	56.96	Mchinji	570
7	1988	40.96	Mchinji	410
7	1988	63.2	Nkhota-kota	632
7	1988	21.76	Salima	218
7	1988	17.2	Salima	172
N = 49		2174.8		
1	1989	7.26	Chiradzulu	18000
1	1989	17.28	Dowa	173
1	1989	39.44	Kasungu	395
1	1989	225	Mangochi	2250
1	1989	34.56	Nkhota-kota	346
1	1989	77.04	Ntcheu	191
1	1989	115	Salima	1150
7	1989	36.5	Kasungu	365
7	1989	50.64	Kasungu	407
7	1989	29.28	Kasungu	293
7	1989	29.76	Machinga	298
7	1989	10.8	Mchinji	108
7	1989	142.4	Nkhota-kota	1424
7	1989	30.49	Nkhota-kota	304
7	1989	43.04	Ntchisi	430
7	1989	34.4	Ntchisi	344
7	1989	42.24	Salima	423
7	1989	90.08	Salima	901
7	1989	42.56	Salima	426
N = 19		1097.8		

ANNEX 1

Summary of Fundamental Malawian Land Law

After independence, the Government of Malawi proceeded fairly rapidly to create a comprehensive body of land law to replace colonial legislation and regulations. The major enabling legislation relating to land was the Land Act of 1965. It declared that all public land (former Crown Land) was vested in the President. Section V. reaffirms the role of customary tenure. Customary land, the former Trust Land, is "the lawful and undoubted property of the people of Malawi and is vested in perpetuity in the president for the purposes of this act" (V.25.1:1965). The majority of the Land Act was, however, concerned with private land, and its overall basis was the English Land Law of 1902 (Riddell 1985). The Land Act quickly proved inadequate as support for agricultural development policy.

In 1967, a series of four laws was enacted whose purpose was to transform the system of land tenure in Malawi. Based on the premise that the customary system of tenure was responsible for a lack of innovation in cultivation methods and, thus, unsuitable for the economic development of the country, the legislation was intended to introduce a new, modern system of tenure based on individual ownership which would establish the necessary conditions to revolutionize agriculture in Malawi. These four laws are the core of land law in Malawi; their provisions are summarized in the following paragraphs (discussion is based on Simpson 1967).

1. Customary Land (Development) Bill (CLD)

The Customary Land (Development) Bill was designed, as its title implies, to convert customary tenure to a form of recorded individual title, "an essential prelude to improved agricultural development" (p. 221). It provides for the systematic ascertainment of all land rights in any area of customary land which the minister declares ready for development. This involves two operations: the ascertainment of existing rights, and the redistribution of land on the basis of plans drawn up for its development. The first stage is similar to the adjudication process employed in the land registration program in Kenya, although with one important difference: in Malawi, the whole emphasis is on development and planning, and the term "adjudication" has been replaced by "allocation," a more accurate description of the second stage of the registration process.

One special feature of the CLD, which became central in its application to the Lilongwe Land Development Programme, is the provision for registration of holdings as family land. In such instances, land may be registered in the name of an individual designated as the head of the family; the holdings remain undivided. As S. Rowton Simpson (1967, p. 224), a land law expert who played an important role in drawing up the legislation, wrote soon after the bill was enacted, "this provision will have to be used with understanding and discretion if it is not to defeat the objective of setting up individual farmers each responsible for his own land." Another noteworthy aspect of the bill is its support for the registration of communal areas such as dambo land and cemeteries as customary land, land to which title is held by the community rather than by a particular individual or family.

2. The Registered Land Act (RLA)

Until 1967, Malawi land law was based on outdated English law from 1902 (the 1925 reforms of English law were never applied in Malawi). The Registered Land Act is intended to remedy this defect by establishing a clear and simple process for the registration of land and for the creation and maintenance of appropriate records that will provide landowners the necessary security and proof of title. The language of the bill has been deliberately kept free of technical terms of English law in order that its provisions can be understood by "any well educated person" (p. 226).

The bill does not provide for the issue of any land certificate or title. Reasoning that certificates can be lost, destroyed, or even stolen, and in any case may not be kept up-to-date, the drafters of the legislation have instead designated the register itself as the authority for proof of title.

3. The Local Land Boards Act (LLBA)

Because at the time it was widely believed that the surest way of depriving a peasant of his land was to give him registered title (see, for example, East Africa Royal Commission 1955), the Local Land Boards Act provides for the establishment of local land boards whose responsibility it is to examine and approve all proposed land transactions. This need to protect landowners was expressed by President Banda, who said, "The intention of the Bill is to protect foolish people who might foolishly and stupidly dispose of their land recklessly, without due regard to their own future and the future of their family" (quoted on p. 227).

Local land boards are to be set up under the District Commissioner; their membership is to include representatives of the chiefs and prominent local citizens as well as specialist government officers. In examining proposed land transactions, the boards are to consider whether or not the transactions are fair and to ensure that they will not adversely affect the use of land—for example, as in the case of sale of farming land to a nonfarmer. The boards are also responsible for dealing with family land matters and with replacing family representatives in instances of death or incapacity.

4. The Malawi Land (Amendment) Act (MLAA)

This short bill enables customary land to become private land and vests customary land in the Head of State. It is this piece of legislation that provides for the allocation of leaseholds.

ANNEX 2

The Process of Obtaining a Leasehold

Since 1971, it has been possible for farmers to apply for leasehold titles to land under the provisions of the Land Amendment Act. This option has become increasingly popular, and between 300,000 and 600,000 hectares (estimates vary) are now held as leasehold estates. The leases are for twenty-one years with the option of renewal for an additional ninety-nine. Very few conditions are attached to the lease: leaseholders are directed to keep the buildings and other structures in good repair, to pay yearly ground rent (currently assessed at 10 kwacha/ha.), and not to transfer the lease without the permission of the Department of Lands and Valuation. In addition, leaseholders are to set aside 10 percent of the land for buildings and other infrastructure and another 10 percent for afforestation. There is currently no limit to the amount of land an individual may apply for, although applications for over 100 hectares must be justified (this provision was instituted about five years ago).

Although the application process is complicated (see attached documents), it is not especially costly and the delays in the process are largely the result of inadequate numbers of staff. An individual who wishes to acquire a leasehold first goes to the local chief or village headman and asks that he be given land. If the individual already occupies the land, it is only necessary that the chief be informed of and consent to the conversion of the land to leasehold. Once the chief acknowledges in writing that he is willing to have the land made leasehold, the individual applies to have the land surveyed. This is the first stage at which delays may occur: surveying is dry-season work and because it is done on a rota basis and because there are too few surveyors, individuals may wait over a year for surveying to be done (the fees for surveying, though, are reasonable, approximately 40 kwacha/ha.). After the survey has been done and the Records Division of the Department of Lands and Valuation (DLV) has checked that the land has not already been allocated, a formal application for a lease is filed. The application must be accompanied by a financial statement, which specifies how much capital the applicant plans to invest and precisely how he intends to develop the land over the next four years. This is a very detailed and complicated document, and many applicants hire DLV staff privately to assist them in its preparation. The statement lays out on a month-by-month basis the expenses the applicant will be required to meet and details how the land will be put into production. The application and accompanying documents are submitted to the District Commissioner (DC), who forwards copies to the Ministry of Agriculture's Agricultural Development Division and the Department of Lands and Valuation.

Once the DLV receives the application, it clears it with the Department of Town and Country Planning in the Office of the President and Cabinet, which may ask that certain conditions be attached to the lease—for example, that the land is for agricultural purposes only or that a waterway within the requested area not be blocked. The DLV then prepares a memorandum for the Minister of Land Matters summarizing the application and recommending that a lease be granted (or not granted) for a specific period of time (usually twenty-one years). Because the Life President holds the portfolio of the Minister for Land Matters, actual approval for the lease is given by the Secretary of the Cabinet.

The next step is for the DLV to draw up an offer of lease which specifies, among other things, the fees the applicant must pay. They include the drawing fee (50 kwacha if the annual rent is 100-499

kwacha, 75 kwacha if 500 kwacha or more), stamp duty (4 percent of rent), survey fee (if not already paid), and rent for the first year (10 k/ha.). Once the fees have been paid, the final lease is drawn up, the original forwarded to the owner, and a copy filed with the Deeds Registry in Lilongwe.

The process of obtaining a leasehold, then, is a complicated one, requiring many steps and a great deal of staff time and effort. Despite this, however, leaseholds have become increasingly popular, so much so that the DLV has been unable to keep up with the volume of applications. Current estimates are that there are at least 7,000 applications waiting to be acted upon, a backlog that it would take many years to clear up at present rates of processing. The problem is in part due to inadequate numbers of staff and in part the product of ever-increasing numbers of applications. In May 1986, for example, the DLV received 16 applications for leaseholds in Central Region (where leaseholds are most numerous), 14 of which were for agricultural purposes. In May 1987, 61 applications were received for Central Region, 53 of which were for agricultural purposes; by May 1989, applications for Central Region had tripled to 180, all of them for agricultural purposes. Given the fact that DLV staff has not expanded in this time, it is hardly surprising that there is a large backlog.

The problems posed by the DLV's lack of staff are also evident in that the Department is unable to monitor land use and compliance with the terms of the lease. It does not have the staff to carry out inspection of the property at any time once the lease has been granted. It has no way of monitoring adherence to the obligation to set aside land for afforestation or to the four-year development plans filed by the applicants or of inspecting the land to see that it is fully developed at the stage that an individual applies for renewal of the lease (at which point a 99-year lease is granted). Four inspectors have apparently now been selected and are being trained, but they have not yet begun these duties.

ANNEX 3

List of Persons Met

Ministry of Agriculture

Dr. G.B. Nthindi, Chief Planning Officer
 Dr. C.P. Mzembe, Head, Irrigation Department
 Mr. S. Hiwa, Planning Division
 Mr. S.S. Banda, Planning Division
 Mr. R. Buckland, Planning Division
 Mr. D.D. Yiwombe, Assistant Chief Agricultural Officer
 Mr. Mwakalagho, Land Husbandry Division
 Mr. H.S.W. Zgamba, Agricultural Officer (Tobacco and Extension)
 Mr. G. Mkamanga, Chief, Agricultural Research Department

Department of Lands and Valuation

Mr. F.N.D. Kaluma, Controller
 Mr. R.A. Counihan, Acting Commissioner of Lands
 Mr. D.A.K. Bandawe, Lands Officer
 Mr. S.B. Phiri, Lands Officer
 Mr. Gonthe, Deeds Registry
 Mr. G.G. Khonje, Chief Assistant Records Officer
 Mr. F.S.C. Mtonga, Principal Lands Registrar
 Mr. R. Medland, Valuation and Estate Management Division

Kasungu Agricultural Development Division

Mr. Chirambo, Principal Agricultural Officer
 Mr. Banda, Land Husbandry Officer
 Mrs. S. Kumwende, Tobacco Extension Officer
 Mr. Magwede, Land Husbandry Officer

Sopani Settlement Scheme

Mr. Kazunga, Field Assistant
 Mr. _____, Credit Officer

Lilongwe Agricultural Development Division

Dr. Mateyu, Deputy Programme Manager
 Mr. Kaimira, Senior Agricultural Officer (Extension)

Liwonde Agricultural Development Division

Mr. E.P. Ching'amba, Deputy Programme Manager
 Mr. Mwangwela, Irrigation Officer

Domasi Irrigation Scheme

Mr. _____, Manager
 Mr. _____, Discipline Officer

Blantyre Agricultural Development Division

Dr. Matita, Veterinary Officer, Acting Programme Manager

Mr. Wanda, Tobacco Officer

Smallholder Tea Authority, Thyolo

Mr. Masanganu, General Manager

Ministry of Finance

Mr. Chiwula, Principal Secretary

Ministry of Forestry and Natural Resources

Mr. K. Nyasulu, Deputy Director, Forestry Department

Kasungu District

Mr. Nthala, District Commissioner

Mr. R.B.C. Moyo, Assistant District Commissioner

Central Region

Mr. E.T. Ng'oma, Deputy Regional Administrator

Bunda Agricultural College

Professor R.M. Mkandawire, Rural Development Department

Centre for Social Research, University of Malawi

Mr. G.A. Banda, Sociologist

Tobacco Research Authority

Dr. Godfrey Chapola, Director

Estate Extension Service

Mr. Francis Kubwalo, Extension and Training Officer

World Bank

Mr. R. Clough, Agricultural Economist

U.S. Agency for International Development

Mr. Arnold Radi, Agricultural Development Officer

Mr. Steve Shumba, Agricultural Program Specialist

Ms. Roberta Mahoney, Program Officer

Mr. Richard Day, Head Program Officer

Ms. Indira Biswas, Program Officer

Ms. Carol Peasley, Director

Mr. David McCloud, Project Officer

ANNEX 4

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