UNIVERSITY OF MALAWI

CENTRE FOR SOCIAL RESEARCH

CONTRACT FARMING AND OUTGROWER SCHEMES IN MALAWI

J. S. NANKUMBA
B. KALUA
P. KISHINDO

MAY, 1989

CONTRACT FARMING AND OUTGROWER SCHEMES IN MALAWI: THE CASE STUDY OF TEA AND SUGAR SMALLHOLDER AUTHORITIES

Research Report

by

NANKUMBA, J.S. (TEAM LEADER)
KALUA, B.
KISHINDO, P.

This research was funded by IDRC, Ottawa, Canada

Centre for Social Research
University of Malawi
ZOMBA

MAY 1989

SUMMARY

This study of the Smallholder Tea Authority (STA) in Mulanje-Thyolo Districts and the Smallholder Sugar Authority (SSA) in Nkhota-kota District of Malawi was conducted from the 1986/87 to 1987/88 seasons. Smallholder Authorities in Malawi must be understood within the context of the general policy of the Government to develop the smallholder (peasant) sector of the economy. The Authorities are established under the Special Crops Act which was originally passed by the colonial legislature as Ordinance NO. 27 of 1963 then amended by the independent republican Government in 1969 (through Act No. 1 of 1969) and again in 1972 (through Act No. 9 of 1972). The stated purpose of the Act as originally passed and as of now is to provide "for the development and marketing of special crops and for the establishment of Special Crop Authorities". Such an Authority is to be a body corporate and is vested with all the normal powers and rights of a corporate body in Malawi (sec. 4(2)).

Among the powers of the Authority are: the power to give credit to smallholders for financing any crop grown in the settlement area (eg this means the lands held under a sublease from the Dwangwa Sugar Corporation Ltd to the SSA and allocated to the smallholders); to levy charges for the provision of irrigation water; to operate accounts for the smallholders; to arrange for the sale of sugarcane or tea to the factory and to make regulations to control the relationship between the smallholders and the management.

The functions imposed on the Authority includes the preparation and carrying out of sugar or tea development schemes. This general function has included within it the specific functions of establishing training farms; the provision of a central agricultural machinery pool for hire to the smallholders; the development of new farms for smallholders; the provision of an estate management service and of a cane cutting service (SSA).

A survey was undertaken to examine the performance of the schemes and isolate factors which lead to the results achieved, from which policy recommendations could be proposed. The survey was based on a census of all growers in SSA and a target sample of 20 per cent of the growers in STA. Factors which influenced sampling in STA included gender and seniority of grower. Other factors which were also considered in the analysis of STA data included income, location, plot size and land tenure as only one variety of tea (India Variety) predominated. Factors which were considered in the analysis included income, seniority, education and prior experience of the grower, and the Relative Cane Payment System (RCPS) formular as the plot sizes were relatively uniform and the sale of cane agreement had already been set at 60 per cent of proceeds for SSA and 40 per cent for the nucleus estate (the Dwangwa Sugar Corporation - DSC). Desk research was also conducted to facilitate the collection of background data and information on both the SSA and STA.

Growers sign contracts with the authorities to grow the cash crop and sell it through the authorities to the processing factories; and they receive their revenue through the authorities. Both authorities benefited from their monopsony power. Growers benefited from the acquisition of new technology used in the authorities. Growers in the SSA disliked the RCPS formular for determining the sugarcane tonnage. Customary land tenure in the STA provided more opportunity for women and security of tenure among growers as the authority found it difficult to envisage eviction.

In general, contract farming arrangements in Malawi involving nucleus estates are limited to essentially export and processed commodities, e.g., sugar and tea. The production and processing technologies are complex and new to most growers and involves economies of scale in some operations. Production of these crops also requires the use of large quantities of specialized inputs in which capital outlay is high. The specialized nature and the high capital outlay initially required to get the processing facilities of tea and sugar operational tends to restrict their replicability to the processing of indigenous food crops and other cash crops. Unless efforts have been made to encourage multinational corporations or other private entrepreneurs to engage themselves in the production and processing of basic food grains and other vegetable crops on their own land including customary land, contract farming does not form the basis of a general rural development strategy. Thus, apart from having another look at land tenures the establishment of processing industries either by a parastatal body or by a private entrepreneur

has been identified as a precondition for a successful implementation of contract farming arrangements. It has been clearly documented that contract farming ensures market guarantees for the product.

The potential to replicate contract farming endevours point at cotton production; stallfeeding and smallholder dairy schemes; and tenant farming in the burley tobacco subsector. Irish potato and cassava processing ventures by private entrepreneurs have also been brought to the attention of the Malawi Government. A call, however, has been made to Government to institute legally biding guidelines for the contracts involving smallholder producers and private companies or multinational corporations. Contract farming should not be viewed as a method by which agribusiness "controls" agriculture while transferring all risks to the growers.

ACKNOWLEDGEMENTS

We thank the International Development Research Centre (IDRC), Ottawa, Canada, for funding the research project on contract farming in Malawi. We also thank the Malawi Government for allowing us to conduct the research in the Tea and Sugar Authorities. We are also indebted to the General Managers of Tea and Sugar Authorities and then to the Government officials in the Department of Agricultural Development of the Ministry of Agriculture for their cooperation and constructive comments on the research. We are grateful to the University of Malawi for the local contribution towards this research in the form of physical infrastructure and secretarial personnel. Finally, we thank Miss Miriam L Chabwera of Bunda College of Agriculture for typing the report.

TABLE OF CONTENTS

	Page
SUMMARY	i
ACKNOWLEDGEMENTS	v
LIST OF TABLES	ix
LIST OF FIGURES	x
CHAPTER I: INTRODUCTION	1
Background to the Research Project	1
Smallholder Authorities	4
- Smallholder Tea Authority: Project Development and Experience	5
- Smallholder Sugar Authority: Project Development and Experience	9
CHAPTER II: METHODOLOGY	13
Sampling Techniques: STA	14
- Sampling	15
Factors that Influenced Sampling	17
- Sex of Grower	17
- Seniority	17
Factors that Did Not Influence the Sampling but Were Taken into Consideration in the Analysis	17
- Area: Mulanje vs. Thyolo	17
- Public vs. Customary Land	17
- Plot Size	18
- Tea Varieties	18

TABLE OF CONTENTS (Cont'd)

Page

Sampling Techniques: SSA 19

- Sampling 19

Factors That Were Taken Into Consideration In The Analysis 20

- Age and Level of Formal Education 20
- Prior Knowledge in Sugarcane Growing 21
- Plot Size 21
- The RCPS Formula 21
- Contract and Sale of cane Agreement 22

CHAPTER III: RESULTS 23

Smallholder Tea Authority (STA) 23

- Sociological Aspects 23
- Land Use and Productivity 24
- Welfare and Income Aspects 24
- Organisational Aspects 31
- Technological Aspects 33
- Contractual Aspects 35

Smallholder Sugar Authority (SSA) 38

- Sociological Aspects 38
- Land Use and Productivity 40
- Welfare and Income Aspects 41
- Organisational Aspects 46
- Technological Aspects 46
- Contractual Aspects 46

Relative Cane Payment System (RCPS) 48

- Sale of Cane Agreement and Marketing 48
- The Relative Cane Payment System 51

Factors Influencing Levels of Income from Principal Crop 53

TABLE OF CONTENTS (Cont'd)

Page

CHAPTER IV: CONCLUDING SUMMARY, REPLICABILITY AND RECOMMENDATIONS 57

Concluding Summary 57

Replicability 63

Recommendations 66

BIBLIOGRAPHY 69

ANNEX I. Inventory of Contract Farming Schemes in East and Southern Africa 71

ANNEX II. Case Study Crops by Country 72

ANNEX III. Map of Malawi Showing the Location of Dwangwa (Nkhota-kota), Thyolo and Mulanje 73

ANNEX IV. Map I: Mulanje District Smallholder Tea Authority 74

ANNEX V. Map II: Thyolo District Smallholder Tea Authority 75

ANNEX VI. Map of Dwangwa: Smallholder Sugar Authority and Dwangwa Sugar Corporation 76

ANNEX VII: Origin of Growers by Region and District, Dwangwa, SSA, 1986 77

ANNEX VIII. Contract Farming and Outgrower Schemes, East and Southern Africa IDRC Network - Malawi 78

LIST OF TABLES

Table		Page
1.	Annual Planting and Yields in Kg Green Leaf	7
2.	Growers' Earnings	8
3.	Pattern of Settlement With Proposals	10
4.	Total Sugarcane and Sugar Production and Sugar Price (Kwacha per tonne)	10
5.	Smallholder Sugar Authority, Dwangwa Smallholder Sugar Project, Smallholder Yield and Income Variability (Excluding Training/Commercial Cane and Trials)	12
6.	Net Income for Tea	28
7.	Livelihood if Left the Scheme	30
8.	Organisations' Activities	32
9.	What Happened to Growers Who Did Not Abide by the Contract?	36
10.	Frequency and Occasion of Disagreements Between the Authority and Growers or Growers' Organisation	37
11.	Net Income From Sugar Growing (Kwacha)	43
12.	A Quantitative and Qualitative Profile of the Deductions From Growers' Gross Incomes, SSA	44
13.	Source of Livelihood Before joining the Scheme (SSA)	45
14.	Growers who Left the Scheme 1985/86 Smallholder Sugar Authority	47
15.	Estimated Technical Coefficients Influencing Income From Principal Crop (Y_p) and Regression Statistics for Experience (E_p), Land (L_p), Gender (G) and Age (A) of Grower, STA, 1985-1987	54
16.	Estimated Technical Coefficients Influencing Income from Principal Crop (Y_p) and Regression Statistics for Experience (E_p) and Age (A) of Grower, STA, 1985-1987	56

LIST OF FIGURES

Figure		Page
1.	Growers' Income Distribution	43

I. INTRODUCTION

BACKGROUND TO THE RESEARCH PROJECT

Contract Farming and Outgrower Schemes (Malawi) Research Project was formulated by a multidisciplinary research team from Bunda College of Agriculture (Rural Development Department) and Chancellor College (Department of Economics, Law, and Sociology) of the University of Malawi in 1985. The project was approved in principle by the International Development Research Centre (IDRC, Canada) at the November 1985 project identification meeting (Centre File 3-A-163) in Nairobi, Kenya, and was funded by the IDRC in July 1986 (Centre File 3-P-86-0026-04) with the total budget of CAD 40,100 and expected to run for two years. Research work started in March 1987. The research project is unique in that it was part of the IDRC organized research network involving researchers from Eastern and Southern African Universities with an aim of coming up with objective inter-country comparisons.

The reasons for this interest in the research network are fairly clear. Contract farming and outgrower schemes have become widespread in Africa (see Annex 1 for East and Southern Africa) and other parts of the developing world over the last ten to twenty years for a wide variety of convergent interests among governments, donor agencies and private entrepreneurs. Developing country governments are concerned about foreign ownership of land and the "enclave" nature of plantations with their weak linkages to the rest of the rural economy. Contract farming seems to provide

greater local involvement. Donor agencies see contract farming as a way of channeling resources to smallholders and compatible with a greater role for the private sector (Glover, 1986). More specifically, the system is attractive as a way of providing smallholders with the services they need in order to compete with large commercial growers: credit, technical assistance, inputs, quality control and marketing. Finally, private firms may see the system as a way of shedding risk, avoiding expropriation, attracting aid funds and establishing good relations with government.

Evidence on which to base these high expectations has been far from solid, however. There have been few rigorous empirical studies that would justify contract farming as the panacea some claim it to be (Williams and Karen, 1985). Furthermore, insufficient attention has been paid to the possible problems contract farming may pose for smallholders or to its possible limitations.

Thus, the research network was organized to provide a systematic comparative analysis of contract farming and outgrower schemes in East and Southern Africa. The purpose of the research project was to identify those factors which have led to different outcomes in terms of grower welfare. Existing research in Africa and elsewhere indicates a wide diversity of experiences, from cases in which farmers have benefited substantially in terms of income and improved farming skills to those in which growers appear to have been severely exploited by firms. However, the reasons behind the variation are unclear. Research teams

from Universities in seven countries (Kenya, Tanzania, Zambia, Zimbabwe, Swaziland, Lesotho and Malawi) were to carry out case studies covering a range of organizational forms, crops and policy context. The cases were selected collectively by the network participants to form a genuinely comparative regional research programme. The sample of cases included sugar, tea, cotton and other non-traditional fruits and vegetables. (See Annex 2). The crop selection reflected the coverage of organizational forms noted in the inventory (Annex 1), and the importance of the crops in terms of employment and revenue. (Sugar, for example, is a major commodity in most countries in the region).

The overall objective of the research project is to assess the experience of contract farming and outgrower schemes in the selected countries of East and Southern Africa, particularly with respect to smallholder welfare and agricultural development policy. The specific objectives are:-

(a) to carry out case studies of specific schemes;

(b) to identify factors which contribute to the success or failure of contract farming schemes in improving growers welfare;

(c) to suggest guidelines for the design of such schemes and the conditions in which their use is appropriate.

In the case of Malawi the project involved the study of Smallholder Sugar Authority at Dwangwa in Nkhotakota District, and Smallholder Tea Authority in Thyolo-Mulanje Districts (see Map 1 in Annex 3).

SMALLHOLDER AUTHORITIES

In Malawi Smallholder Authorities must be understood within the context of the general policy of the Government to develop the smallholder (peasant) sector of the economy. The Authorities are established under the Special Crops Act which was originally passed by the colonial legislature as Ordinance No. 27 of 1963 then amended by the independent Republican Government in 1969 (through Act No. 1 of 1969) and again in 1972 (through Act No. 9 of 1972). The stated purpose of the Act as originally passed and as of now is to provide "for the development and marketing of special crops and for the establishment of Special Crop Authorities".

Under the Act, the Minister responsible for agriculture may declare any crop to be a special crop if he is satisfied that the development of that crop should be promoted or fostered under the Act (sec. 3). When this has been done, then the Minister is obliged to establish an Authority for the promotion and fostering of the development of such a special crop and in such areas as he may determine (sec. 4(1)). Such an Authority is to be a body corporate and is vested with all the normal powers and rights of a corporate body in Malawi (sec. 4(2)).

When the special crop has been declared and the Authority established, no person is allowed to grow, sell, barter or buy the crop unless he/she holds a valid licence authorizing him/her to do so. Infringement of this provision makes a person liable to a fine, which may include an order that the special crop of the offender be forfeited.

Administratively, Smallholder Authorities in Malawi are statutory bodies and come under the control of the Department of Statutory Bodies. Currently, Smallholder Authorities include Sugar Smallholder Authority (SSA), Tea Smallholder Authority (TSA), Coffee Smallholder Authority (CSA), and Kasungu Flue Cured Tobacco Authority (KFCTA). The Authority Boards have representatives from the Ministry of Agriculture and the Ministry of Finance as well as from the growers themselves. Certain sections in the authorities' operations are financed directly by the Malawi Government and the authorities prepare budgets which are submitted to the Government for scrutiny.

Smallholder Tea Authority : Project Development And Experience

The STA was established through Government Notice Number 26 of 20th January 1967 under the Special Crops Ordinance to encourage the involvement of smallholders in the production of tea. Smallholder tea growing is supervised by the smallholder Tea Authority in the Thyolo and Mulanje Districts. The growers

are grouped into 'ten blocks' for administrative purposes with the tea plots being on either public land or customary land. Public land is typically land previously owned and cultivated by large-scale tea growers but bought off by the government for reallocation to smallholders. One result of this, has been some noticeable differences between public land and customary land cultivation. The inherited tea cultivation on public land is more systematic and more consolidated than customary land cultivation which is often broken up by settlements and sometimes displays gaps among the tea bushes due to poor husbandry.

As the gree leaf started to be harvested by smallholders the STA had to contract with commercial estates to purchase the leaf for manufacturing into black tea. Owing to increase in volume, construction of STA's own factory commenced in Mulanje in September 1973. Manufacture of smallholder green leaf by the MATECO[1] factory commenced in December 1974. Annual plantings and yields in kg green leaf, and also growers' earnings on an annual basis in both Thyolo and Mulanje areas from 1969-1986 have set a mark of modest successes (Tables 1 and 2) when considered on both per hectare and per grower basis.

---

1. MATECO = The Malawian Tea Factory Company Ltd.

TABLE 1 : ANNUAL PLANTING AND YIELDS IN KG GREEN LEAF

YEAR	MULANJE			THYOLO			TOTAL		
	Hectares Planted	Total Hectares	Kg Green Leaf	Hectares Planted	Total Hactares	Kg Green Leaf	Hectares Planted	Total Hectares	Kg Green Leaf
Pre 1969	84	217	89,110	13	71	1,107	97	288	90,217
1970	166	333	164,575	18	89	3,297	134	422	167,872
1971	159	492	396,593	20	109	8,823	179	601	405,416
1972	160	652	384,022	32	141	25,504	192	793	409,526
1973	103	755	695,534	32	173	45,936	135	928	741,478
1974	124	879	1,432,312	38	211	95,698	162	1,090	1,528,010
1975	145	1,025	1,547,422	45	256	149,233	191	1,281	2,299,583
1976	169	1,194	2,051,019	55	311	248,564	224	1,505	2,299,583
1977	106	1,300	2,579,004	79	390	307,194	185	1,690	2,886,198
1978	130	1,430	2,910,324	55	445	393,955	185	1,875	3,304,279
1979	85	1,515	3,436,081	36	481	520,906	121	1,996	3,956,284
1980	85	1,600	4,100,527	43	524	1,036,410	128	2,124	5,216,937
1981	71	1,671	4,603,988	32	556	1,319,113	103	2,227	5,923,010
1982	65	1,736	4,850,932	35	591	1,228,406	100	2,327	6,079,338
1983	1	1,737	5,483,557	8	599	1,502,380	9	2,336	6,985,937
1984	1	1,738	6,199,599	11	610	1,567,602	12	2,348	7,767,201
1985	1	1,739	8,291,068	-	610	1,917,908	1	2,349	10,208,976
1986	-	1,739	10,479,387	12	622	2,841,380	12	2,361	13,320,767

SOURCE : STA, 1987

TABLE 2 : GROWERS' EARNINGS

Year	Mulanje	Thyolo	Total
	Kwacha	Kwacha	Kwacha
1967	20	Nil	28
1968	2,099	34	2,133
1969	4,911	61	4,972
1970	9,071	182	9,253
1971	21,858	486	22,344
1972	21,165	1,406	22,571
1973	38,344	2,532	40,866
1974	79,915	5,267	85,182
1975	102,343	9,870	112,213
1976	135,650	16,440	152,090
1977	227,619	27,536	255,155
1978	256,644	34,597	291,241
1979	303,007	52,950	355,957
1980	368,656	91,395	460,051
1981	391,335	112,137	503,472
1982	460,762	116,711	577,473
1983	607,158	166,200	773,358
1984	1,449,567	359,472	1,809,039
1985	2,155,851	499,736	2,655,587
1986	1,257,526	340,966	1,598,492*

* Includes only the initial payment at the time of writing as the level of the second payment had not yet been approved.

SOURCE : STA, 1987

Smallholder Sugar Authority : Project Development And Experience

Project development and establishment at Dwangwa was initiated by Lonrho (Malawi) Limited who provided finance to develop the DSC. Following the establishment of the SSA the initial 43 settlers were former employees of the DSC. The major physical target were only met at the Dwangwa Delta where 683 ha irrigated land was developed leaving out the rainfed component. Although settlement of smallholders was planned to finish in 1982 it dragged on until 1984 when 306 ha were settled instead of 330 farmers estimated, due to soil variability together with patchy land revelling on some plots making them unsuitable for smallholder settlement. SSA farmed the balance of plots as commercial area. Data in Table 3 show the progress of smallholder settlement over time.

The substantial rise in the level of Lake Malawi submerged part of DSC estate. As a result of this incident, DSC requested SSA to relinguish the original smallholder food and housing plots to replenish their lost cane area in exchange for a larger site but of poor soils which could not produce sufficient food for farmers.

The price of sugar was projected to rise constantly right from project establishment and was expected to stabilize from 1983 (Table 4). In the years 1980 to 1981, the world sugar price exceeded the estimated price. All profits accrued from the high sugar price were distributed to smallholders without provisions

TABLE 3 : PATTERN OF SETTLEMENT WITH PROPOSALS

Year	Number of Smallholders					Plot Size of Cane per each smallholder
	Proposed		Actual			
	Settled	Cumulative	Settled	Left	Cumulative	
1978	30	30	29	Nil	29	2 ha
1979	60	90	43	1	71	2 ha
1980	110	200	85	2	154	2 ha
1981	70	270	84	3	235	2 ha
1982	60	330	61	2	294	2 ha
1983	Nil	330	17	7	304	2 ha
1984	Nil	330	2	Nil	306	2 ha
1985	-	-	-	4	302	2 ha
1986	-	-		90	212	2 ha & 4 ha
1987	-	-	-	12	200	3 ha

TABLE 4 : TOTAL SUGARCANE AND SUGAR PRODUCTION AND SUGAR PRICE(Kwacha per tonne)

	ESTIMATED	ACTUAL									
	1977	1979	1980	1981	1982	1983	1984	1985	1986	1987	Estimated 1988
Harvested Cane Hectares	600	248	676	656	642	665	665	663	663	665	666
Total Cane Production Tonnes	68000	21674	62970	73234	75200	67798	64062	67301	60920	65322	66551
Yield Cane Tonnes per Hectare	103	89	93	112	117	102	96	102	92	98	100
Estim. Recovereable Sucross %	10.87	11.45	12.41	12.52	12.92	12.74	13.32	12.92	12.87	13.26	12.70
Total Sugar Production Tonnes	7.394	2.482	7.814	9.169	9.591	8.635	8.531	8.695	7.840	8.636	8.452
Yield Sugar Tonnes pe ha	11.20	10.21	11.56	13.98	14.94	12.98	12.83	13.11	11.82	12.98	12.69
CDC Price Projections at 60% Ex-Mill Share Kwacha/tonne Sugar		130.09	154.57	171.86	184.75	198.61	198.61	198.61	-	-	-
Actual Sugar Price at 60% Ex-Mill Share Kwacha/Tonne Sugar		126.83	162.74	182.47	129.45	142.95	166.08	210.85	242.80	Estimated 250	Estimated 250
Ex-Mill Sugar Price (Govt Subsd)		N/A	N/A	N/A	N/A	175.26	184.55	N/A	N/A	-	-

SOURCE: Smallholder Sugar Authority , 1987

for future price decline. From 1982 to 1984, the sugar price declined and had a negative effect on smallholders' incomes and the domestic market did not expand as expected. Resource was made to the Malawi Government for financial assistance to meet commitments of development loans repayment besides taking care of farmers' incomes. For 3 years SSA survived on the government subventions against the original objective to run the establishment on its own finances. Attempts by the SSA Board to re-structure meant cancelling certain services such as cane transport, mechanical workshop and building department which have not been contracted to DSC. Smallholders have been reduced to 200 deemed hard working farming with increased cane area from 2 to 3 ha each on 600 ha and the balance being farmed by SSA as commercial area. The initial Commonwealth Development Corporation management staff from the SSA were gradually replaced by local staff to reduce management costs.

As far as the growers are concerned, the average net income rose steadily from K859 in 1979 to K2,305 in 1981, with the minimum net income always above K500. From 1982 onwards incomes started to decline due to falling prices, to the extent that average net income was reduced and some growers experienced negative incomes (see Table 5). Apart from unfavourable prices the Relative Cane Payment System Formular (RCPS) in calculating cane prices for the growers was another source of discontent. The system seeks to reduce the wide variations in incomes among growers due to factors beyond their control such as sub-optional harvesting (by the Authority), soil type variations. The sytem tends to be regarded with suspicion by growers affected negatively.

TABLE 5 : SMALLHOLDER SUGAR AUTHORITY, DWANGWA SMALLHOLDER SUGAR PROJECT

SMALLHOLDER YIELD AND INCOME VARIABILITY

(EXCLUDING TRAINING|COMMERCIAL CANE AND TRIALS)

	1979	1980	1981	1982	1983	1984	1985	1986
Number of Smallholders	71	154	236	294	304	306	302	212
Actual Tons Cane|ha								
Average	97.73	110.9	126	122.7	99	95.67	101.55	91
Maximum	145.46	157.26	178.32	171.9	156.1	164.181	151.209	138.175
Minimum	82.46	91.82	81.32	82.8	54.9	43.655	39.005	63.435
RCPS Yield Tops Cane|ha								
Average	-	-	-	122.7	99	95.67	101.648	94.652
Maximum	-	-	-	146.95	111.85	124.238	138.576	115.912
Minimum	-	-	-	94.96	80.61	80.126	50.841	87.172
Net Income K|Farm								
Average	859.41	1792	2305.02	*591	*453	*489	438	907
Maximum	1993.94	3229.21	4078.76	1143.75	1219.65	345.44	1172.56	2892
Minimum (Loss)	518.23	795.15	602.51	(94.53)	(183.10)	(562.37)	(1052.03)	(851)

* Income using RCPS and after subsidy from Government

SOURCE: Kisebe, 1987

II. METHODOLOGY

Both desk research and field surveys were used to collect data and information. Desk research facilitated the collection of background data and information on both Smallholder Tea Authority (STA) and Smallholder Sugar Authority (SSA). Types of data/information collected included:-

1. Historical background to the Smallholder Authorrities including the objectives for their establishment.

2. Steps taken in project (Smallholder Authority) development.

3. Relationship of the Authorities with the Malawi Government.

4. By-laws applicable to growers in the Authorities.

5. Growers accounts in terms of gross output and related gross earnings.

6. Contract documents between the Authorities and Smallholder growers.

7. Contracts or Memorandum of agreements between the Authorities and the nucleus estate.

Field surveys were conducted in SSA at Dwangwa in Nkhota-kota District and in STA in Thyolo and Mulanje

Districts. Questionnaires which were pretested in SSA, and DSC at Dwangwa, and at Ministry of Agriculture Headquarters were administered by way of personal interviews to:-

1. a working sample of growers;
2. to those smallholders who were growers before;
3. to smallholders who aspire to become growers of the principal crop;
4. to General Manager of Smallholder Authorities; and
5. to policy makers at the Ministry of Agriculture Headquarters (see Appendix 3). The collected data was coded for computer analysis. Details of sampling techniques in each smallholder Authority are discussed in the next section.

SAMPLING TECHNIQUES : STA

Smallholder tea growing is supervised by the smallholder Tea Authority in the Thyolo and Mulanje Districts. The growers are grouped into 'ten blocks' for administrative purposes with the tea plots being on either public land or customary land.[2] Public land is typically land previously owned and cultivated by large-scale

2. Under the rules of customary land tenure when a piece of land has been allocated to an individual, he/she obtains a near-perpertual right to use and occupy. Thus, at the level of facts, the appearance is that of an individual "owning" land, but at the level of ideas the community as a whole owns the land -- hence land cannot be sold.

tea growers but bought off by the government for reallocation to smallholders. One result of this, has been some noticeable differences between public land and customary land cultivation. The inherited tea cultivation on public land is more systematic and more consolidated than customary land cultivation which is often broken up by settlements and sometimes displays gaps among the tea bushes due to poor husbandry.

Sampling

The target sampling fraction was 20% of the total number of growers, which is a comfortable proportion. This was uniformly applied in both the Thyolo and Mulanje Districts and on both public and customary land.

The systematic sampling method was adopted, and used on the Smallholder Tea Authority growers' register. For a 20% sampling fraction, semi-random systematic sampling would have required the selection of every fifth grower after the first one had been randomly chosen from the first five.

For the present survey the 'semi-random' element was discarded because the names of growers are not listed by some grower - characteristic - neutral criterion like alphabetical ordering. Instead, the growers are listed according to their seniority in the scheme, which implies experience. In order to take this into

account for the representativeness of the sample, the first grower (the most experienced) on each block list was included and the counting for subsequent grower selections started from the first grower. The systematic counting procedure would, to a large extent, take care of the different experience categories.

The other variable that posed problems in sampling was the sex of the grower, which was considered to be a possibly important factor in influencing a grower's performance. Since female growers comprised a small minority, it was decided to include as many of them as was practical.

The major problem faced in trying to accommodate the female growers was that from the growers' list it was not possible to identify all the female growers. An initial but partial solution was to replace selected growers on the lists, by the nearest[3] identifiable female grower. This process was continued in the field where more information about the identity of the female growers could be obtained from the Agricultural Field Assistants. With this procedure, the only major limitation on the number of female growers actually interviewed, was their availability for interview.

FACTORS THAT INFLUENCED SAMPLING

1. Gender of Grower

Tea growers are predominantly male but there is a significant proportion of female registered growers (77% males vs 23% females in Mulanje, and 88% males vs 12% females in Thyolo).

2. Seniority

The Smallholder Tea Authority records indicate that there are growers who were registered from as early as 1966 implying more than 20 years experience, while some have entered the scheme fairly recently. This is likely to lead to some differences in performance.

FACTORS THAT DID NOT INFLUENCE THE SAMPLING BUT WERE TAKEN INTO CONSIDERATION IN THE ANALYSIS

3. Area: Mulanje vs Thyolo

The Mulanje/Thyolo areas are adjacent to each other. But since Mulanje tea growing area is closer to the Mulanje Mountain than Thyolo, there may be some small climatic and soil differences.

4. Public vs Customary Land

The most significant aspect of this distinction is likely to be in the apparently more systematic

cultivation with more integrated tea bushes on public land compared to some of the customary land plots. If such a difference can be generalised, the consequence is likely to be differences in the size of yields per given plot size by whether it was on public or customary land.

5. Plot Size

Plot size does not appear to be determined by some of the obvious variables such as seniority in the scheme or whether the plot is on public or customary land. But the summary figures on plot size do suggest that plots under tea per grower are on average larger in Thyolo than those in Mulanje with variations among the blocks. Obviously, this will influence the volume of tea a grower is likely to handle and possibly his/her net income.

6. Tea Varieties

Three varieties of tea have featured under the scheme. These are the Indian variety, the polyclonal variety, and the vegitative variety. The Indian variety was dominant from the beginning of the scheme up to 1969. After 1970, the polyclonal variety became the only variety. The vegitative variety has never accounted for more than 2% of the total cultivated hectarage under tea even during the earlier years.

SAMPLING TECHNIQUES: SSA

Similar to tea growing in the STA in the Thyolo and Mulanje Districts, smallholder sugarcane growing is supervised by the Smallholder Sugar Authority (SSA) at Dwangwa in Nkhota-kota District. The growers are grouped into 37 blocks of fields and 5 settlement villages for administrative purposes. All cane plots are on "public land", which is sub-leased from Dwangwa Sugar Corporation (DSC) by the Authority on behalf of the smallholder growers; and all growers received some training in sugarcane growing for one season before they were asked to engage into a contract with SSA. The backgrounds of the growers are, however, diverse because virtually all of them were recruited from 23 out of the 24 administrative districts of the country. Salima District was the only exception, i.e., no grower had come from Salima District at the time of investigation.

Sampling

The census of the growers was the working sample. Relative to the total number of growers in STA (over 4,000) and given that the target sampling fraction in STA was 20% of the total number of tea growers, the population of cane growers in SSA was small enough (187) to warrant the use of the census as the working sample.

FACTORS THAT WERE TAKEN INTO COSIDERATION IN THE ANALYSIS

Since the cane growers in the SSA are virtually homogeneous with respect to land tenure, crop variety (NC. 376), sex and training in cane growing the factors which will be considered as having influenced cane production and levels of productivity and grower welfare include:-

1. background of the grower with respect to age, level of formal education, and some knowledge in sugarcane growing prior to joining SSA;

2. institutional factors such as plot size allocated to grower, the use of RCPS formula by SSA management in the calculation of payments to smallholder cane growers, the contract of cane growing between the grower and SSA, and sale of cane agreement between SSA and DSC.

1. Age and Level of Formal Education

The Smallholder Sugar Authority records (based on a 1984 survey on the background of growers) indicate that there are some variations in both the ages and levels of formal education attained by growers. The recruitment criteria demands persons who are physically fit; and level of formal education tends to be the driving force towards the ability

of the farmer to adopt relevant innovations. These are, therefore, likely to lead to some differences in performance.

2. Prior Knowledge in Sugarcane Growing

Again, the recruitment criteria calls for persons who have been involved in agriculture before, suggesting some knowledge of what is involved in agriculture would greatly benefit the cane grower. The SSA records indicate that some farmers had grown the principal crop before while the others did not. Differences in awareness of the principal crop among the cane growers may influence the differences in the level of understanding during the training period, and hence may in turn influence the differences in performance.

3. Plot Size

The SSA records indicate some differences in plot sizes allocated to growers. The criteria for such differences is not clear but this may influence the level of output realized.

4. The RCPS Formula

The Relative Cane Payment System (RCPS) has been used by SSA Management in calculating payments to smallholder cane growers. Cane harvesting dates in SSA do vary and hence introduce variability to cane yields. Smallholder growers whose

cane is harvested after flowering tend to be at serious disadvantage. The idea of RCPS formula is to reduce the reflected wide variations in the payments done between those growers who were at an advantage and those that were at a disadvantage. This is likely to cause discontent among growers and consequent reduction in productivity. Grower turn-over may also be increased as a result of this.

5. Contract and Sale of Cane Agreement

The type of the contract and the terms contained in the contract are likely to effect an improvement or a deterioration of grower welfare. After training a smallholder farmer who has been recommended by the SSA Management to become a cane grower has to engage into a contract with the SSA. The failure to abide by the contract is likely to influence grower welfare. The terms contained in the contract are likely to provide some guidelines regarding whether or not the grower or the SSA was breaking the contract, and whether or not the contract is more in favour of one party and not the other. Similarly, the foregoing may apply to sale of cane agreement between SSA and DSC.

III. RESULTS

The results have been organised to consider sociological aspects, land use and productivity, welfare and income aspects, organisational aspects, technological aspects and contractual aspects with respect to each smallholder authority.

SMALLHOLDER TEA AUTHORITY (STA)

Sociological Aspects

The tea growers on the scheme were predominantly male, accounting for 70 percent of the total sample. Most of the growers were in the age group 35-54 accounting for 42 percent. Members in the scheme were predominantly from the area, accounting for 97 percent of the sample with the remainder having come from outside the area. Obviously, the scheme caters for local people and a major reason for this is land holding in the area.

Before joining the scheme farming or wage employment had been the source of livelihood for 76 percent of the farmers in the sample (31% and 45%, respectively). About 15 percent was made up of people who had tried other business ventures. The remainder was made up of people who had hitherto been unemployed and therefore were being supported financially by parents or other relatives. For the non-immigrant growers,

the initial plot was given by either the village headman or chief accounting for 78% of the sample. Thus, most farmers were growing tea on their customary land.

Land Use and Productivity

Most of the plots on the scheme were between 1 to 2.9 acres (0.4-1.3 ha) accounting for 50.1% of the sample. Only 5.6% had plots larger than 7 acres (2.8 ha).

For most growers (57%) the initial plot had been between 0.4-1.3 ha. Only 9% had more than 2.2 ha (5 acres). Where an existing plot was enlarged it likely occurred under the existing customary rules i.e. taking over a relative's plot. This kind of annexation accounted for about 0.7% of the land expansion that had taken place. Only 8.7% of the growers had extra plots from the Tea Authority.

With regard to adequacy of land, the majority of growers (77.4%) felt the available plot was inadequate for their needs.

Welfare and Income Aspects

Over two fifth (41%) of the sampled growers first mentioned input credit facilities particularly on fertilizers when responding to the question of benefits from the scheme (STA), while money, food and clothing accruing to them were first mentioned by only 19% of the sampled

growers. However, the question of which one of the benefits was the most important was received with mixed feelings. Acquisition of knowledge from new farming techniques and input credit facilities particularly that for fertilizer were reported by 19% and 18% of the growers respectively as the most important benefits from the scheme. Money earned and the availability of enough food and clothing were reported as the most important benefit from the scheme by only 12% of the respondents. In order to increase yields the use of fertilizers is essential on most Malawi soils. Given the relatively low income levels among smallholder farmers and relatively high fertilizer prices the provision of a credit facility for these types of inputs in the agrarian economy of Malawi is an important inducement to increase productivity.

The majority (87%) of the sampled growers in the STA reported to have confronted problems of various nature connected with the operations of the scheme. In order of severity, little cash payment from sales of the principal crop, insufficient food and deductions considered by growers to be too high were the first, second and third problems respectively as reported by 39%, 11% and 3% of the respondents respectively. Little cash payment and too high deductions are "two sides of the same coin", thereby, suggesting that over two fifths (42%) of the growers in the scheme consider deductions to be too high.

With regard to the possibility of selling tea to other than the Authority only 2 respondents indicated that it was possible: one indicated that they had actually

done so. One probable reason for this is the unfair terms of other buyers. But this is unlikely to be a major reason since only 6 respondents indicated that they were aware of other buyers' terms, with all 6 thinking that they were unfair.

Sources and levels of cash incomes need some detailed discussion. The highest proportion of growers who received any income apart from sale of tea and other crops was 24% for 1986, compared to 16% and 21% respectively for 1985 and 1987. For the majprity of those deriving cash incomes from non-crop sales (over 60% in each year) the incomes fell in the 0.00-99.99 Kwacha categories. This result reflects the lack of non-farm cash income generating opportunities that is typical in Malawi's rural areas. But even if one were to consider income from crops other than tea, one finds that the proportion of those involved never amounts to 40% in the three years (1985, 1986, 1987) and among them nearly 90% derive incomes in the 0.00-99.99 Kwacha range.

These two results above suggest that heavy reliance might be placed on tea as the major single cash income generator. This observation is collaborated by the result that the distribution of income from tea is such that the proportion of growers with incomes from tea sales of lower than K99.99 never exceed 23% implying that the majprity earned gross incomes of over K99.99. For all the three years, nearly 90% of sample households incurred costs of less than K200 on the tea and nearly 95% of the households did not incur 'other miscellaneous' costs exceeding K100, implying that costs associated

with the tea were the major ones. These costs mainly included fertilizer costs. In order to see what effects the deductable costs had on grrowers' net income and its distribution one needs to look at the actual figures. These are shown in the table below.

From the table the majority of net incomes for tea (for over 50% of households) are below K300. Beyond that, most of the remaining growers' net incomes are spread over a wide range up to the income category 1000.00-1999.99. There have, however, been some temporal variations in the net income distribution, which suggest that in 1986 more farmers were better off than in 1985 and 1987 since the proportion of those in the low income categories (less than K300) was lower in 1986, (54% compared to 57% in 1985 and 67% in 1987). The large proportion of growers earning low net income suggest that additional income apart from that from tea would be important but considering the actual levels of such incomes, there are some obvious disappointments here.

According to the observed maximum net income, falling in the 5000.00-9999.99 category, there is scope for earning good incomes under the scheme. It will probably be the case that the extremely high net incomes must somehow be related to resource availability especially land and labour. For the majority of households in the Thyolo-Mulanje area, land would be in critical supply due to very high population densities and the concentration of very large scale tea estates. For affected households the land constraint means that higher incomes from rea would depend heavily

TABLE 6 : NET INCOME FOR TEA[1]

Income Category	1985		1986		1987	
	No.	%	No.	%	No.	%
0.00 - 99.99*	323	35.49	259	28.46	355	39.01
100.00 - 199.99	130	14.29	140	15.38	150	16.48
200.00 - 299.99	74	8.13	107	11.76	110	12.09
300.00 - 399.99	64	7.03	59	6.48	65	7.14
400.00 - 499.99	58	6.37	50	5.49	54	5.93
500.00 - 599.99	50	5.49	47	5.16	40	4.40
600.00 - 699.99	33	3.63	32	3.52	29	3.19
700.00 - 799.99	28	3.08	35	3.85	20	2.20
800.00 - 899.00	21	2.31	23	2.53	18	1.98
900.00 - 999.00	16	1.76	20	2.20	11	1.21
1000.00 - 1999.99	80	8.79	95	10.44	47	5.16
2000.00 - 2999.00	21	2.31	24	2.64	5	0.55
3000.00 - 3999.00	5	0.55	9	0.99	2	0.22
4000.00 - 4999.00	3	0.33	5	0.55	1	0.11
5000.00 - 9999.00	4	0.44	5	0.55	3	0.33
10000.00 and over						
TOTAL	910	100.00	910	100.00	910	100.00

1 All tea was sold to the Authority except in 1985 when one grower sold his tea elsewhere for a total value of K314.90.

SOURCE: Field Survey, STA 1987

on good land and crop husbandry.[4] These will entail capital intensive farming with respect to seasonal inputs, such as fertilizers, as well as labour intensity in picking. Some of the factors likely to influence levels of income among growers will be explored at a later stage.

Sources of livelihood if the growers left the scheme was a pertinent question. Over half (55%) of the respondents would continue farming as a source of livelihood if they left the scheme (STA). However, over one fifth (21%) of the respondents would revert to wage employment while only 13% would engage themselves in other income generating business ventures (see Table 7). These results agree with what Machika and Nankumba (1988) observed when investigating the dynamics of customary land tenure system on the question of smallholder farmers' aspirations: given various choices within the context of customary land most (62.8%) smallholders would rather run their own farms other than do other business work for someone ellse. The opting for non-farm ventures by over one third (34%) of the respondents suggests that those opting for farming would find themselves locked up into subsistence farming if they left the scheme.

---

4. In 1982, the population densities for Thyolo and Mulanje Districts were respectively 252 and 185 persons per square kilometer which are higher than the average for the whole of the Southern Region (125) and the nation (85).

TABLE 7 : LIVELIHOOD IF LEFT THE SCHEME

	Livelihood	Freq.	%
1.	Farming	499	55
2.	Business	117	13
3.	Earning a salary	189	21
4.	Farming and salary	3	0
5.	Business and farming	13	1
6.	Salary, farming and business	3	0
7.	Doesn't know	69	8
8.	Supported by parents/relatives	8	1
9.	Join another scheme	4	0
10.	Not applicable	5	0
	TOTAL	910	99

SOURCE: FIELD SURVEY, STA 1987

The establishment of the scheme may lead to the displacement of people and consequent hardship on the people. Only 19% of the respondents knew some people who were displaced by the scheme; and of these, about 11% indicated that displaced people were compensated and had settled elsewhere. These small percentages suggest that a considerable proportion of farmers were not displaced but rather got involved in the scheme using their own land.

Organisational Aspects

The majority (97%) of the respondents belonged to some farmers' organisation. Thus, only a small proportion (3%) did not have any growers organisation, and over half (55%) of these did attempt to form some growers' organisation but did not succeed mainly because of lack of cooperation among growers. Inspite of this lack of cooperation the growers acknowledged the usefulness of a growers' organisation particularly with respect to reporting growers' problems and assisting growers in farming methods (Table 8).

Also, in Table 8 data shows that over two fifths (43.1%) of the respondents who belonged to growers' organisation indicated that their growers' organisation does provide assistance in farming operations and about 11% of the respondents acknowledged that the organisation played a role of a court in settling growers' disputes. Although only 1% of the respondents reported fruitless representation of the growers by the growers' organisation in the past, over half (57%) of the respondents did not suggest any other tasks to be done by the organisation, thereby implying that other tasks including forms of representation are seen by the majority of growers as both ineffective and not universally applicable.

The successful existence of the growers' organisation in the scheme (STA) may be attributed to the leadership abilities to handle disputes and encourage the growers help each other. Field data has shown that the majority (89%) of respondents indicated that leaders of the growers' organisation listen with ease to farmers concerns.

TABLE 8 : ORGANISATIONS' ACTIVITIES

Activities		To be done by new org.		What existing org. does now		What existing org. used to		Other tasks existing org. could do	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
1.	Representation	-	-	76	8	5	0	67	7
2.	Buying inputs	-	-	9	0	2	0	23	3
3.	Help in forming methods	4	0	392	43	3	0	36	4
4.	Lend some help	1	0	81	9	1	0	27	3
5.	Report farmers' probs.	5	0	111	12	-	-	52	6
6.	Rep. but no results	-	-	5		10	1	3	0
7.	Settling disputes	-	-	100	11	2	0	3	0
8.	None	2	0	1	0	-	-	52 2	57
9.	7 & 3	-	-	8 1	9	-	-	3	0
10.	Welfare activities	2	0	1 2	1	3	0	28	3
11.	Help obtain loans	3	0	5	0	-	-	19	2
12.	Fertilizer, not free	1	0	1	0	-	-	2	0
13.	Fight for price increases	-	-	-	-	2	0	82	9
0.	Not applicable	892	98	36	4	882	97	43	5
	TOTAL	910	98[a]	910	98[a]	910	98[a]	910	98[a]

a. Figures to not add to 100% because of rounding

SOURCE : Field Surgey, STA 1987

Technological Aspects

98% of the growers started growing tea only after joining the scheme, suggesting that there may be important barriers to entry for non-scheme growers. These barriers are likely to be mostly technological, for example, 95% of the 444 households who indicated that they had experienced increases in yields mentioned factors such as fertilizer application and farming methods as being the major determinants. On the other hand, those who did not experience yield increases mentioned non-technological factors such as unfavourable rainfall, and aging crop. In addition, 22% of the growers experienced increased profits and technological factors feature once more in explaining the change. These factors include 'new farming methods', 'yield increases' and 'good crop variety'.

The quality of tea had improved for 80% of growers and the primary reason was good crop husbandry. Sixty-four percent of the growers, however, still use farming practices that were recommended when they first joined the scheme while 27% indicated that the practices they used were changed often. The extension workers who reached growers were mostly scheme-based rather than government ones (for 87% and 13% of the respondents, respectively) and 97% of the sample growers actively sought extension advice, which the majority of growers (97%) believed was free. Moreover, 96% of the growers totally relied on the techniques they were taught under the scheme because they did not know better alternatives.

Coming to the question of farm level decion-making, 79% of the growers felt that the scheme made decisions on their behalf, most likely through the extension advice they depended so much upon.

Seventy percent of the sample growers used hired labour which implies that smallholder tea growing under the scheme is associated with additional employment generation. This should not be surprising given the labour intensity of tea picking. However, the majority of them, (89%) only hired fewer than 6 workers. For those to whom the question was relevant, the most frequently mentioned tasks done by hired workers are 'weeding and harvesting' (52%), 'weeding' (14%), 'harvesting' (11%), 'pruning, weeding and harvesting' (10%). From this it can be deduced that weeding, pruning and harvesting are the main tasks for which labour is hired.

There is no uniformity in the way of wage rates for workers are calculated. But for those to whom the question was relevant the most popular method seems to be 'on a monthly basis' (44%) followed by 'field basis' (30) then daily basis (23%). Other variations of minor importance and which are task-specific are 'per kilo weight basis', 'per tree'. For respondents to whom the question of actual monthly pay to workers was applicable, 93% indicated that they actually paid less than K20 per month, which is quite low, considering the statutory monthly minimum wage of K26.70. It may actually be the case that some of the workers engaged are themselves subsistence farmers working for the tea growers on a part-time basis.

Contractual Aspects

A significant proportion (67%) of growers signed their contracts on joining the scheme, thereby indicating that most growers in the scheme (STA) are literate. Only two thirds (67%) of the respondents acknowledged the Authority's commitment to the contract; about one fifth (21%) expressed discontent over the Authority's commitment to the contract. According to the respondents the contracts are violated in several ways of which the most important aspects include: (1) too high deductions; (2) taking decisions away from growers regarding whether the loan be in cash or in kind; (3) tea rejections due to delays in provision of transport for picked leaf from the Authority.

However, there have been cases of growers not abiding by the contract as reported by 19% of the respondents. the majority (81%) of growers did not know as to what happened to those who did not abide by the contract; 15% indicated that warnings were issued to such growers while cases of eviction were reported by only 2% of the respondents (see Table 9). These results suggest that harsh treatment of growers by the Authority was not a common practice. In the Thyolo-Mulanje areas land is scarce so much that the growers who operate on public (Authority) land have to abide by the contract and the Authority has to be rather sympathetic to the growers. As stated earlier the highest proportion of growers who faced eviction was only 2%. This may be explained partly by the sympathetic and educational approach adopted by the Authority towards non-

complying growers, and partly by the fact that about three quarters of the growers cultivate their own land as represented by the 74% of the respondents.

TABLE 9 : WHAT HAPPENED TO GROWERS WHO DID NOT ABIDE BY THE CONTRACT?

What happened to non-complying growers?	Proportion of respondents	
	Freq.	%
Warned	135	15
Withdrawn	17	2
Some warned/some withdrawn	6	0
Encouraged	15	2
Don't know	737	81

SOURCE : FIELD SURVEY, STA 1987

Perhaps due to the educational approach adopted disagreements between the Tea Authority and the growers organisations were so rare that about four fifths (79%) of the respondents hardly knew anything about any disagreements.

However, there were cases of disagreements between the Authority and the growers over payments and the weighing of the harvested leaf during sales. The

highest proportion of respondents reporting these cases were 4% and 3% respectively. (See Table 10).

TABLE 10 : FREQUENCY & OCCASION OF DISAGREEMENTS BETWEEN THE AUTHORITY AND GROWERS OR GROWERS' ORGANISATION

Frequency/Occasion	Authority vs. Growers		Authority vs. Growers Organisations	
	Freq.	%	Freq.	%
1. Often	60	7	10	1
2. Rarely	344	38	172	19
3. During payments	39	4	2	0
4. During weighing	25	3	1	0
5. Never	437	48	9	1
6. Don't know	5	0	716	79
TOTAL	910	100	910	100

SOURCE : FIELD SURVEY, STA 1987

According to the 96% of the respondents the Tea Authority hardly undertook tasks which could be done by growers. Only 3% of respondents indicated that pest control, road maintenance, the procurement of inputs, conservation and planting are done by the Tea Authority. With regard to these tasks the majority (95%) of respondents objected to the idea of asking the growers' organisation to undertake these tasks, thereby leaving these tasks

to be done by both the Authority (where need be in the case of planting) and the growers themselves.

From the point of view of growers the Tea Authority has not lived up to their expectations as represented by 85% of the respondents. Disappointments were varied but low profit, and little money resulting from too high deductions were cited by the majority (72%) of respondents. Although there were cases on bonus and fertilizer loans where expectations were reported to have been exceeded the largest proportion of respondents indicating this was 14%.

SMALLHOLDER SUGAR AUTHORITY (SSA)

Sociological Aspects

The sugar growers under the scheme (SSA) were virtually all men with the exception of one female who was a widow. Most of the farmers were within 35 to 44 years of age accounting fro 44% of the growers. Majority of the growers (70%) had attained at least the senior primary level education i.e. at least Standard 5. Taken as a rough measure of literacy it can be concluded that the majority of the growers were literate.

The average number of children per family among sugar growers was 5 and the number of children range between 1 and 17. Over 70% of families had 6 or less children. Family size will impose constraints on grower families' standards of living to the extent that the children stay with the families and/or are

dependent on them. Several factors can determine the level of this constraint. These include the availability of resources such as land for foodcrop cultivation, and whether the children contribute to the family labour requirements. Some insights into the importance of resources constraint will be gained when data relating to land, food supply and general problems are discussed.

Only 16% of the growers lived in the area before joining the scheme, implying that over 80% of the growers were immigrants from within Nkhota-kota/Nkhata Bay Districts or further away. The regional distribution of district or origin indicates that the Nkhota-kota and the nearby Nkhata Bay Districts between them accounted for only 21% of the growers. The rest came from further away, many coming from the Central Region (47%) and the Southern Region (33%) while the remaining came from the Northern Region. The relative importance of the Southern Region and the relative unimportance of the Northern Region in supplying growers for the scheme is likely to be mainly explained by the relative population pressure, which is heavy in the former and lighter in the latter.

The data on when growers had joined the scheme indicate that by the time of the survey, the majority of the farmers (99%) had had at least four years of experience in the scheme. Most had been farmers (48%) in their previous occupations or had been in wage employment (a further 39%). The latter were probably mostly engaged in agricultural employment but this remains speculative.

Land Use and Productivity

On the question of adequacy of land as an important primary resource in this respect, 85% of the growers indicated that they did not have enough land under the scheme for their farming requirements seen in terms of increasing the cultivation of both food and cash crops. Not surprisingly a large majority of such growers (94%) indicated that they planned to acquire more land. Considering the predominance of immigrants among growers, it is also not surprising that 89% of the growers experiencing land constraints saw the Smallholder Sugar Authority as their only possible source for increasing farm land. In the case of growers from within or near the scheme their respective traditional authorities in the form of chiefs or village headmen would provide natural source for a solution to the land problem.

A direct indication of the adequacy of food harvests by sugar growers in the SSA was also investigated. A high proportion of growers (79%) indicated that their food harvest was not adequate and the most important reason (as indicated by 60% of the growers) was land shortage, and family size contributed significantly to this. 90% of the growers indicated that they supplemented their food harvests in the event of food short-falls with purchases, suggesting that cash incomes would play an important role in this respect.

Welfare and Income Aspects

The benefits derived from the scheme were many but the most important was the receipt of knowledge about improved farming techniques which accounted for 35% of the respondents. The availability of general credit facilities and those relating to the supply of fertilizer together constituted the second most important category of benefits. After that come medical care and the cash earnings, food and clothes associated with the scheme. The rest, i.e., transport, infrastructure, etc. made relatively much less impact on the growers.

Over 90% of the growers indicated that they had had problems on the scheme. Over 70% of the total number of respondents mentioned problems which have something to do with their incomes, e.g. 'no profit', 'deductions', 'poor pay', 'the relative crop payment system (RCPS)', 'late payments' and general shortage of 'money'. This analysis is based on the first problem mentioned.

Sugarcane growers on the sheme generally tend to derive gross earnings in excess of K4,000. Moreover, these gross earnings show a marked rise over the 1985-1987 period. For example, 98% of the growers derived gross earnings of K4,000 and above in 1985 while in 1986, 97% derived gross earnings of K4,500 or above and this rose further to K5,000 and above in 1987. However, these gross earnings include various deductions at source so that the actual earnings received by the growers in return for thier labour and effort can be far below the gross earnings.

Data in Table 11 give a picture of the pattern of net incomes after all deductions for respondents for whom data were available. Compared to the levels of gross earnings, the net incomes are at much lower levels, reflecting the fact that expenses deducted for various services and inputs provided by the SSA account for much of the gross earnings. For 1984 and 1985 the net incomes mostly fell between K100 and K500 with a fairly even spread. During these years, few growers had net incomes of above K700 from sugarcane. This is sharply contrasted with the gross earnings of above K4,000 noted above. The net incomes earned in 1985 appear to have been worse than those experienced the year before (Fig. 1). But those for 1986 were a marked improvement over both of the earlier years. In view of the improvement in gross earnings noted earlier between 1984 and 1985 the net income comparison between those years suggest rather heavy deductions in 1985 compared to 1984.

The net incomes indicated in Table 11 cannot be considered to be high for most of the growers. However, these incomes from sugarcane growing could be supplemented by other income generating activities. Levels of income generated from sale of other agricultural produce suggest that this source of income is not a promising one for the majority of the growers. In each of the three years (1984, 1985 and 1986) over 60% of the growers did not derive any incomes from this source. But even for the few to whom this source was a possibility, the incomes so earned were generally less than K100.

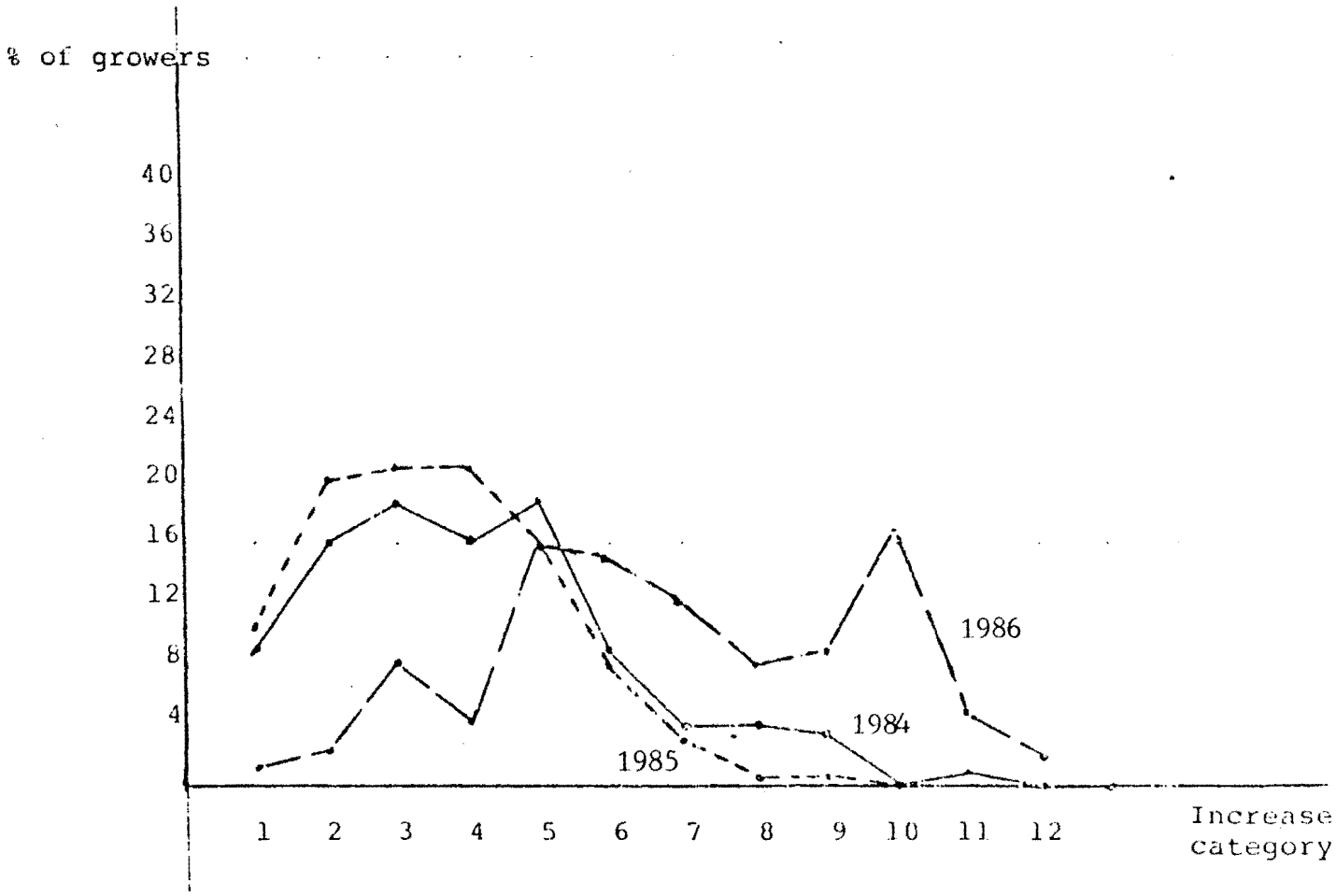
TABLE 11 : NET INCOME FROM SUGAR GROWING (Kwacha)

Income category	1984 n	1984 %	1985 n	1985 %	1986 n	1986 %
0.00- 99.99	17	9	18	10	1	1
100.00- 199.99	30	16	36	20	3	2
200.00- 299.99	35	19	39	21	3	2
300.00- 399.99	29	16	38	21	15	8
400.00- 499.99	36	19	30	16	8	4
500.00- 599.99	16	9	14	8	30	16
600.00- 699.99	8	4	5	3	27	15
700.00- 799.99	8	4	1	1	22	12
800.00- 899.99	5	3	2	1	15	8
900.00- 999.99	-	-	-	-	16	9
1000.00-1499.99	2	1	-	-	31	17
1500.00-1999.99	-	-	-	-	10	5
2000.00 +	-	-	-	-	4	2
	186	100	183	101*	185	101*

* Do not equal 100 due to rounding.

SOURCE : Field Survey, SSA 1987.

FIG 1 : GROWERS INCOME DISTRIBUTION



* 1 = 0.00-99.99 2 = 100.00-199.99 etc., following from Table V.7

SOURCE : Field Survey, SSA 1987.

Data indicating a quantitative and qualitative profile of the deductions from growers are shown in Table 12. The data suggest that the heaviest costs incurred by growers are associated with extension service, development and machinery costs for harvesting and fertilizer issue. These are responsible for significantly reducing net incomes below the gross levels.

TABLE 12 : A QUANTITATIVE AND QUALITATIVE PROFILE OF THE DEDUCTIONS FROM GROWERS' GROSS INCOMES, SSA

	Amount/Range (For majority of farmers, i.e., over 95%).		
	1985	**1986**	**1987**
Expenditure			
Development	587	587	579
Extension	1557	1792	1861-3722
Conservation	106	101	93- 187
Replanting	299	160	176- 188
Road maintenance	28-32	28	19- 39
Machinery			
Tractor hire	minor	(Generally less than K50)	
Harvesting	heavy	(Generally from K800 to over K1,000)	
Fert. delivery (transport)	minor	(Generally less than K100)	
Stores issues			
Fertilizer	heavy	(Over K300, 1985; over K700, 1987)	
Maize	minor	(Less than K100)	
Other costs			
Principal crop insurance) Living Allowance) Medical charge)	minor	(About K50)	
Interest on credit balance) Miscellaneous)	minor	(About K200) but getting heavy by 1987 (over K500)	

SOURCE : FIELD SURVEY, SSA 1987

Farming and wage employment were the main sources of livelihood before the growers joined the scheme (SSA) accounting for 48% and 39% respectively. (See Table 13).

TABLE 13 : SOURCE OF LIVELIHOOD BEFORE JOINING THE SCHEME (SSA)

Source	n	%
Farming	90	48
Business (non-farm)	7	4
Wage Employment	73	39
Farming/Wage Employment	2	11
Business/Farming	1	1
Farming/Employment/Business	1	1
Supported by parents	7	4
Was in another scheme	4	2
Other	2	1
TOTAL	187	101*

* Does not total 100 due to rounding

SOURCE : FIELD SURVEY, SSA 1987

Organisational Aspects

There was no farmers' organisation in the SSA although farmers elected their representative to present their problems and possible suggestions to the SSA Board. However, the organisations observed were designed to cater for the election of "Village Chiefs" who were to deal with society problems within their settlements.

Technological Aspects

The majority of the growers (99%) had had at least four years of experience in the scheme. Most had been farmers (48%) in their previous occupations or had been in wage employment (a further 39%). The latter were probably mostly engaged in agricultural employment but this remains speculative. A reasonable proportion (39%) had grown the principal crop before, using traditional methods. This category of growers approved of the new method they learned at the SSA as being better than the traditional method.

Contractual Aspects

An overwhelming majority (98%) of the farmers received a comprehensive package of services related to their sugar growing activities. These include extension service, planting, haulage and harvesting of the sugar-cane crop. These would be expected to be reflected in the deductions made to the growers' gross earnings

from their participation in the scheme and ultimately the perceived profitability of remaining in the scheme. Generally, chemical inputs provided under the scheme were not readily available from other sources and therefore growers would have little discretion over the sources.

Despite the general importance of rice cultivation in the Nkhota-kota District, maize is by far considered to be the most important food crop by the sugar growers. Land availability and allocation to food crop production generally reflects the national pattern. 66% of the growers had 0.4 hectares or less under food crops with a further 25% having up to 0.8 hectares. This indicates that the SSA did abide by its contracts. However, there were cases where growers were withdrawn after several warnings from SSA because they did not abide by the terms of the contract. Of the 12 interviewed about 50% of them had received three warnings. The total number of the people withdrawn was 24 while those who resigned were 73 thereby indicating some discontent about the contracts with the SSA (see Table 14).

TABLE 14 : GROWERS WHO LEFT THE SCHEME 1985/86 SMALLHOLDER SUGAR AUTHORITY

	1985	1986	RESIGNED	WITHDRAWN	WARNINGS	TOTAL
	77	22	73	24	I	33
INTERVIEWED					II	15
12	66	6			III	13
					IV	5
					V	2
					O	31
TOTAL NUMBER WHO LEFT						99

RELATIVE CANE PAYMENT SYSTEM (RCPS)

Over 70 percent of the total number of respondents in the SSA included the RCPS as one of the main problems which did affect their incomes significantly (c.f. welfare and income aspects - SSA). To understand why the RCPS was introduced it is in order to discuss the sale of cane agreement and marketing before embarking on growers' attitude towards the payment system.

Sale of Cane Agreement and Marketing

Sugarcane produced by the smallholders is delivered to the nearby sugar factory of Dwangwa Sugar Corporation (DSC). In 1977, the Ministry of Agriculture of Malawi Government commissioned Mr P.S.G. Smith, sugar consultant, to recommend a fair split for sugar proceeds and Smith recommended 60% for the SSA and 40% for the DSC mill on the basis of estimated recoverable sugar in the cane. The recommendation was accepted.

Burning, cutting and haulage are operations left to the SSA; the grower does not do these operations. The cane is cut and then transported to the mill which belongs to DSC. At the entrance into the mill the cane from each grower's field is weighed before it is taken into the mill. Samples of crushed cane are collected and analysed for Dark Analysis Cane (DAC) pol, D.A.C. fibre, D.A.C. purity, % estimated recoverable sucrose (E.R.S., %) and Tonnes E.R.S. These variables,

determined in DSC factory laboratory, are used for calculating cane payment to the growers.

Gross payment (GP) for cane for grower is calculated using this formula:-

GP = T.C.H. x area x E.R.S.% x Sugar price

Where:-

T.C.H. is Tonnes cane per hectare

E.R.S.% is Estimated recoverable sugar

Sugar price is determined by DSC and sent to SSA where it is discussed by the SSA Board members and finally sent to His Excellency the Life President for approval. DSC pays 60% of the approved price to SSA.

E.R.S.% value used in the above formula is the same for calculating GP of every grower. Mean E.R.S.% for the whole harvesting period is used.

Growing conditions at Dwangwa proved highly conducive to flowering of sugarcane. After flowering, cane growth ceases, and there is no further increases in yield. Flowering results from temperature above 20.5°C, under soil moisture surplus conditions when the day length is almost exactly 12.5 hours. The cane must have several mature internodes before flowering is initiated. At Dwangwa, floral initiation takes place between 7th and 9th February, and flowers begin emerging in the middle of April, most flowers having emerged

by early May. Normally NCO 376 is a light flowering variety, but at Dwangwa where it is the main variety, flowering approaches 100%. No further vegetative growth takes place after May, so late cut cane will always have lower yields due to the shortened growing period. Sugar content and quality also deteriorates 3 to 4 months after flowering. Both plant cane and ratoon cane flower heavily if they possess enough internodes by February. Throughout the cutting season from May, to November, cane yields can be expected to decline and after July, cane quality can be expected to deteriorate. Cane harvesting date thus introduces variability to cane yields. Large scale trails with growth regulators, metabolic inhibitors and chemical defoliants have been used to inhibit floral initiation at Dwangwa and limited success has been achieved with Ethrel. The sugar mill requires a continuous throughput of cane from May to November, and much of the cane will have to be cut every year in the months after flowering that is in August, September and October when yields are lowest. Smallholders settled on plots cut during these months and are at a serious disadvantage. (Appendix 5).

The SSA management therefore thought of means whereby those growers who are at a disadvantage could be compensated. The Relative Cane Payment System (RCPS) was introduced in order to reduce the wide variations in the payments done between those growers whose cane is harvested late. (Appendices 6 and 7).

The Relative Cane Payment System (RCPS)

To reduce the wide variation in incomes which arise from environmental factors beyond control of the individual farmer while at the same time aiming at rewarding hardworking farmers in either late or early harvesting group, management has introduced RCPS. Basically, the system rates an individual smallholder's yield both to his neighbours with same environmental conditions and for the overall average yield achieved by SSA; e.g. T.C.H.

	T.C.H.
A. Actual smallholder's yield	95 Tonnes
B. + Block average yield	85 Tonnes
S. SSA average yield	105 Tonnes

Formula, RCPS; T.C.H. $= A \times \frac{S}{B}$

$= 95 \times \frac{105}{85}$

$\therefore$ RCPS; T.C.H. $= 117.35$ Tonnes

+ A block is the original field divided into farmer's plots of agreed hectarage such as 3 ha each.

The RCPS example shows yield achieved by a farmer who is slightly better than his colleagues in a late cut block. RCPS has necessitated the standardization of charges to smallholders for fertilizers and haulage to minimize costs variations (Kisebe, 1987).

The RCPS has been welcomed by smallholders with mixed feelings:-

(a) No farmer is paid for actual tonnage of cane produced on his plot, therefore, there is some suspicion against management as to where their actual tonnes go.

(b) Good farmers whose crop is harvested early produce high yield and production which boost the overall estate yield and production but which is not credited to them. The good farmers, therefore, received average incomes based on average SSA yield while the good farmers in the late cut cane enjoy above average incomes, hence the good farmers in the early cut period see no reason to improve their yields.

(c) Poor farmers who achieve lower yields and finally reduce overall average project yield may not incur low incomes themselves. See Appendix 5 where the data shows smallholders actual yield/RCPS yield and income variability.

FACTORS INFLUENCING LEVELS OF INCOME FROM PRINCIPAL CROP

Multiple regression analysis was performed to determine possible explanatory variables of income from the principal crop. The regression model took the following form:-

$$Y_p = C_o + b_1E_p + b_2L_p + b_3G + b_4A$$

where,

Y_p = Income from principal crop (K)

E_p = Experience in growing the principal crops (years)

L_p = Land devoted to principal crop (ha)

G = Gender of grower (dummy variable)

A = Age of grower (years)

C_o = Constant

$b_1 - b_4$ = Coefficients to be estimated.

The multiple regression analysis indicates that income from the principal crop, tea, was positively and significantly (P = 0.001) associated with age of a grower and with years of experience in growing the principal crop (tea) for all the three years data. (See Table 15). These results establish the fact that years in tea growing as a proxy for experience is an important variable in tea production. This phenomenon was also observed among tenants growing burley tobacco

TABLE 15: ESTIMATED TECHNICAL COEFFICIENTS INFLUENCING INCOME FROM PRINCIPAL CROP (Y_p) AND REGRESSION STATISTICS FOR EXPERIENCE (E_p), LAND (L_p), GENDER (G) AND AGE (A) OF GROWER, STA, 1985-1987

		Parameter estimates[a] for function $Y_p = C_o + b_1E_p + b_2L_p + b_3G + b_4A$ by year (for STA)		
Explanatory Variable		1985	1986	1987
E_p : Experience growing principal crop (years)	(b_1)	251.387***	320.681***	186.555***
		(7.862)	(7.502)	(6.623)
L_p : Land devoted to principal crop (ha)	(b_2)	7.692	-	6.595
		(1.491)		(1.451)
G : Gender of grower (Dummy)	(b_3)	-272.166***	-281.191***	-220.044***
		(4.878)	(3.770)	(4.477)
A : Age of grower (years)	(b_4)	58.909***	81.151***	51.828***
		(3.476)	(3.582)	(3.472)
Other regression data				
Intercept	(C_o)	-216.870	-307.127	-146.337
R^{-2}		.158	.136	.129
F - statistic		36.256***	40.394***	28.838***

a. Figures in brackets are -statistics
*** p = 0.001.

SOURCE: Fi d Survey, STA, 1987

in Malawi by Nankumba (June 1988). However, there existed a significantly negative (P = 0.001) association between income from tea and gender of the growers thereby indicating that female growers were producing better quality tea, which fetched a high price and culminated into a relatively high income. Field experience has shown that generally women (including young girls) are employed to harvest tea in the Tea Estates basically because they tend to be meticulously careful in harvesting better quality tea than their male counterparts. These field experiences regarding excellent workmanship from women when it comes to grading has been expressed by tobacco graders at the Lilongwe Auction Floors in spite of the reservation made that they (the women) tend to lose out when it comes to achieving a specified quantity per a given time period.

Land devoted to the principal crop (tea) did not explain any variation in the levels of income from tea. This is not surprising because in the Thyolo-Mulanje area there is so much shortage of land that the hectarages allocated to tea are very tiny and virtually identical. This is true for growers operating customary land because for those operating public land the STA allocates almost the same hectarage of land to each grower on the scheme. It has been indicated earlier that decisions regarding land allocation to the principal crop was made by the STA; this applying to growers on STA land.

Multiple regression analysis for SSA data was restricted to one season (1987) only, and to only two variables,

experience and age of sugarcane growers. Land size was virtually homogeneous and there were virtually all male growers except for one woman who was a widow. Similar to the case for STA data results of the analysis indicate a significant (P = 0.001) and positive association of income of the principal crop sugarcane with age and with experience in years of growing sugarcane. (See Table 16).

TABLE 16 : ESTIMATED TECHNICAL COEFFICIENTS INFLUENCING INCOME FROM PRINCIPAL CROP (Y_p) AND REGRESSION STATISTICS FOR EXPERIENCE (E_p) AND AGE (A) OF GROWER, STA, 1985 - 1987

	C_o	E_p	A
Coefficient	-112.883	187.227***	52.353***
(T-statistic)		(6.643)	(3.505)
R^{-2} * .127			
F-statistic = 37.693***			

*** P = 0.001

SOURCE : FIELD SURVEY, SSA, 1987

IV. CONCLUDING SUMMARY, REPLICABILITY AND RECOMMENDATIONS

CONCLUDING SUMMARY

Smallholder Authorities were instituted principally to encourage smallholder farmers to grow lucrative cash crops such as sugar and tea through contracts. Thus, programmes to encourage pod crop production in these Authorities have tended to take a low profile. The rationale that growers would use the proceeds from the cash crops to buy food did not consider the looseness of the contracts and the demands of by-laws set by the Authorities. Contracts which were signed by the recruited growers were designed to control grower behaviour and age, and also credit conditions. Gender preference and mode of payment of the proceeds were not explicitly spelt out in the contracts. However, research findings have indicated that **(a)** male and married growers are often preferred to females; **(b)** cash payments are made after the sale of cash crop in the World Markets and that these payments are made by instalments (monthly) to take care of grocery needs; **(c)** cash incomes have not been as high as anticipated due to high management and development costs, and also due to "irregularities" such as the RCPS in the case of the SSA; and **(d)** growers are not represented in the setting of produce prices when the Authorities and nucleus estates (DSC) consider the international markets.

Withholding income and paying the growers by instalment helps to lock up farmers into the scheme. Since withheld cash is kept in the Authorities' Account it was reported by the Authorities' Management that interest is shared by SSA and the growers. In this regard one would argue as to why the Authorities should have a share of the interest on the growers' net savings.

Resettlement of growers on public land indicates that the growers are operating land for which they have no title. The risks and uncertainty associated with the lack of title over land are astounding. The "tenant" grower lacks flexibility in decision-making as most production and marketing decisions are made by the land owners -- the Authority Management. This lack of flexibility tends to increase the risk of food insecurity at household level as the hectarage for food crops (0.4 ha at the time of research) cannot produce enough maize, rice or cassava to feed an average family size of 4.5 members. Increases in food crop hectarage had not been considered for fear of losing fertilizer and labour inputs to food crops. The uncertainty associated with operating somebody's land often culminates to evictions of tenant grower if the scheme management is, in its own opinion, not satisfied with the grower's performance or behaviour towards Authority. For those operating customary land in STA the worst that can happen to "uncooperative" grower is to have him/her withdrawn from grower's register and replace him/her with a relative. To this effect customary land tenure offers more security of tenure among growers as the Authority found it difficult to envisage eviction.

Although the contracts which recruited growers sign do not explicitly discriminate against women, virtually all growers operating public land either in the SSA or STA were male. This suggests that recruitment procedures were designed to reduce the involvement of women as independent participants in the scheme. Growers operating customary land, however, comprised some female growers in the STA, thereby indicating that customary land tenure provided more opportunity for women. It is difficult to establish a convincing argument that would justify discrimination against women. In Malawi, it is a known fact that over 25 per cent of rural households are female headed and that food crop production and the growing of other cash crops such as hybrid maize, rice and pulses are done by women. Taking SSA as an exaple, what is required of a grower include the following:-

(a) timely weeding of the cane field;

(b) timely application of fertilizer;

(c) provision of fire breaks;

(d) draining access water when cane has matured.

Harvesting and haulage to the factory are often done by hired labour. Women assist their husbands in performing the required operations and there is no way one can justify that a woman cannot graduate from her apprenticeship programme and become an independent grower. It has been established from the research findings that potential recruits are first trained by way of working as labourers, i.e., assisting

other growers in the same way as the wives assist their husbands. In similar manner, therefore, females would be trained and recruited as independent growers. The only woman, a widow, in the SSA gives a classical example of a female cane grower, given the chance.

Comparatively, growers in STA got more cash incomes than their counterparts in SSA mainly because of low sugar prices, high development costs and the RCPS. the controversy surrounding the continued use of the RCPS has "forced" the SSA Management to start thinking about a way of modifying the RCPS formular in order to encourage productivity. Since low sucrose content can result from delays in harvesting the cane, and since capacity of the factory delays cane harvesting and haulage which in turn have to go in turns, some growers are obviously offered a low price for their cane simply because they were the last ones in the roll. It is this logical framework that has encouraged the use of the RCPS formular in an attempt to compensate those whose cane was harvested rather late.

In addition to the differences in the income levels, the STA has its own factory while the SSA is dependent on the DSC factory. The DSC has its own cane plantations and this sets a limit as to how quickly SSA growers' cane can be harvested

Owing to contracts and selection procedures, most of the growers in the SSA were young men with relatively high levels of formal education (and hence literate) who will stay in the scheme only if income levels

are high, but also if there are no alternatives. It has been stated in the results that most growers operating public land do not have sufficient land at their respective homes to turn to. Besides, outside the scheme, they cannot have the chance to grow sugarcane and sell it either to SSA or DSC under a similar contract. This indicates that most growers are locked up as they have no alternatives to what they are doing now. (Recall that the majority of SSA growers were from within Nkhota-kota and nearby Ntchisi Districts, in which case they would easily leave the scheme had they had alternatives in similar ventures). In the STA, however, some growers operate customary land in which case farmers have alternatives in similar ventures, i.e., to work as labourers in tea estates, operate public land and take the risk of being evicted, or simply grow the tea on their own customary land. The STA presents a model for possible replicability of the contractual arrangements in other crops; a subject of the subsequent section.

In the SSA, some growers (33.2% of sample) indicated that they had grown sugarcane before joining the scheme for consumption or cash on a very small scale. Thus, they were able to point out some of the differences in the farming techniques used at home and those used on the scheme, with the latter declared as better and modern.

Most growers (99.2% of the sample) in the STA, never grew the principal crop (tea) before. Those who have grown it before are exceptional cases and very few (0.8%). They either had grown it with their relatives

before joining the scheme. Even those who had grown tea before claim that the technique has not changed much, the basics are the same.

Technical advice is sought whenever farmers encounter problems in their farming activities. This advice is paid for in the case of SSA as mentioned and the charge is what every grower has complained about as unfair because it is too much. However, in STA, this advice/service is given free of charge to the growers and they know it.

The STA has a large number of technical staff (extension agents) as opposed to the SSA. Each block has its own extensionists who are referred to as Section Managers. An observation on how they plan their work revealed that most of them face transport problems to commute from one part of the block to the other since most of them do not even own a bicycle. This is especially true in customary land where tea fields are scattered and not consolidated as in public area thereby making it difficult for on-field checking and advice to be administered efficiently.

Technical staff in SSA are well equipped in that more senior ones have motorcycles and others have bicycles so that they can do their work efficiently in the fields with farmers.

REPLICABILITY

In general, contract farming arrangements in Malawi involving nucleus estates are limited to essentially export and processed commodities e.g. sugar and tea. The production and processing technologies are complex and new to most growers and involves economies of scale in some operations. Production of these crops also requires the use of large quantities of specialized inputs for which capital outlay is high. The specialized nature and the high capital outlay initially required to get the processing facilities of tea and sugar operational tends to restrict their replicability to the processing of indigenous food crops and other cash crops. Unless efforts have been made to encourage multinational corporations to engage themselves in the production and processing of basic food grains and other vegetable crops, contract farming does not form the basis of a general rural development strategy.

Apart from having another look at land tenures the establishment of processing industries either by a parastatal body or by a private entrepreneur has been identified as a precondition for a successful implementation of contract farming arrangements. It has been clearly documented that contract farming ensures market guarantees for the product. In Malawi, smallholder farmers (both male and female) operating customary land have engaged in stallfeeding steers, dairying on contract with the Cold Storage Company and the Malawi Milk Marketing, respectively. The types and terms of the contract have not been that clearly known but smallholders had an obligation

to sell the finished steers to Cold Storage Company or the milk to the Malawi Milk Marketing as part of the terms to be adhered to if the farmer was to be granted steers or dairy animals on credit. The dairy and beef industries involve the three partners in the venture: the Ministry of Agriculture grants steers and dairy animals on credit to farmers; the farmer finishes the steers or produces the milk with an obligation to sell the product to either one of the two parastatal bodies. The parastatal bodies have each a monopsonistic obligation to buy the products from the smallholders. These schemes have adapted to customary land tenure pattern.

Almost in parallel terms, smallholders operating customary land sell their produce maize, fire cured tobacco, cotton, groundnuts, rice to the Agricultural Development and Marketing Corporation (ADMARC). According to the law that established ADMARC, the objectives of the corporation are several but the ones specific to the smallholder sector include the purchasing of all agricultural produce sold by the smallholder farmer; to establish markets for these transactions, to store, process, manufacture, adapt for sale, distribute, sell, grade mark, pack, insure, advertise and transport the smallholder commodities. Although there has never been either a written or oral contract between smallholders and ADMARC the contract in law which has tended to be binding does exist by conduct. Although a cash crop (fire cured tobacco) is also involved the arrangement has again adapted to customary land tenure pattern.

Recent developments seem to favour the concept of contract farming involving private entrepreneurs in potato and pepper processing. The Malawi Government (Ministry of Agriculture) was approached in 1988 by some private entrepreneurs interested in contracting smallholders to produce potatoes. With regard to peppers small scale processing has already been initiated by indigenous Malawian entrepreneurs (Ref. **Nali Abale Samalani** Peppers) both for home consumption and for export. The Export Promotion Council of Malawi announced its interest (April 1988)[5] to commision a study to look into the supply survey on spices in Malawi. Terms of reference included a review of aspects concerning development of production and exports of spices. Obviously, these terms of reference call for identification of ecological zones for varieties to be recommended; identification of potential production and potential entrepreneurship (for processing, wholesaling and retailing); and the willingness of financial institutions to provide financial assistance for production, export and entrepreneurship. Contractual arrangements with smallholder farmers who are already engaged in the production of peppers and other spices would form a basis for a viable rural development strategy especially if the growers are encouraged to use their own land rather than become "tenant" growers. Such an arrangement would become a replica of the STA where customary land is used.

---

5. Letter from General Manager, Malawi Export Promotion Council, to the Registrar, Bunda College of Agriculture, University of Malawi, Ref. P5/C dated 11 April, 1988.

A replica of contract farming arrangements where growers do not operate their "own" land in SSA and STA indicate to tenant farming in the burley tobacco subsector. Under the arrangement growers, legally referred to as tenants, operate land for which they have no title and have to sell the produce to the "landlords". The "landlords" sell the purchased produce to the Auction Floors in Lilongwe and Limbe. Tobacco processors buy the raw produce from the Auction Floors. Arrangements can be made to establish contracts between producers and processors via the Auction Floors if smallholders were allowed to grow burley tobacco on their own customary lands. However, this calls for a major policy shift from the current one[6] and it is thus not a viable potential replica of SSA and STA growers on public lands.

RECOMMENDATIONS

Contract farming should involve farmers operating their own land under customary law because where public land is involved the scheme seems to be biased against female farmers as has been observed in the SSA. In addition, such a move would reduce perpertual dependency of smallholders on agribusiness or landowners and hence reduce the uncertainty associated with contract farming on allianated lands. Smallholder Authorities should have their processing plants if this implies direct access to outside markets for the processed commodities concerned. Comparatively, there were less problems in STA than in SSA related to delays in harvesting the principal crop and in the payment of proceeds to the

---

6. Under General Notice No. 118 of 1985, applications for licence to grow and sell special crops must indicate a deed number of a private estate on which the crop is to be grown. Special Crops Act of Malawi (Cap. 65:01).

growers probably because the STA had acquired its own factory. The RCPS system in SSA needs to be reviewed if not abandoned because it contributes to low productivity and unnecessary unrest both among the tenant growers and between the growers and the Authority.

Prior to recruitment of growers some training of the potential growers is necessary because experience in growing the crop has been authenticated as one of the significant factors to increase the yields and quality of tea and sugarcane. The functions proposed for the authorities imply that the authorities should establish training farms or provide some funding to some training institution which would assist in the training of potential growers at the field level.

Farmers should have a legal representation in signing contracts for interpretation of the terms of the contract. Contract farming should not be viewed as a method by which agribusiness "controls" agriculture while transferring all risks to the growers. Consequences of contract violations between both parties (company and growers) must be clearly understood. To minimize variation in commodity prices the contract should suggest Government to prescribe prices of commodities. Alternatively, a National Board should be set up to represent smallholder farmers making contracts to bargain for better prices with contracting organisations.

Credit facilities should be provided to smallholder farmers either by way of Bank loans, overdrafts or

Government loans and this should not be restricted to production inputs per se. Consumption credit is necessary to growers enganged in the contract because large hectarages are reserved for cash crops as opposed to food crops. This proposition has been argued for by Vitols who in 1985 argued that allocative efficiency may be of only minor importance compared with X-efficiency when he referred to the fact that the reasons for considerable variation in output must not be restricted to observable measurable inputs. The elements of a contract may not be fully specified; it may be impossible to specify every detail of labour's obligations and not all factors that contribute to output are marketed. Motivation of the workforce can considerably affect both quality and quantity of output (X-efficiency) but it cannot be purchased as with other inputs. The question of food is as important as the question of proper housing for the growers operating public land.

The Malawi Government should encourage the development of contract farming for other crops including food crops to effect processing. The infrastructure for such arrangements seem to be present. David Whitehead and Sons; and Grain and Milling Companies are only few examples of private and public ventures which could easily engage themselves in contract with smallholder farmers operating their own land including customary land. However, Government (Ministry of Agriculture) must establish legal memorandum of understanding which would contain legal guidelines, prerequisites and other safeguards directing the types and terms of contract.

BIBLIOGRAPHY

Commonwealth Development Corporation (CDC), Smallholder Tea Authority, Malawi Report of Reappraisal Mission, 1982. London: CDC 1982.

David, Glover. "Project Summary on Contract Farming and Outgrower Schemes, East and Southern Africa". IDRC File 3-P-86-0026, 16 May, 1986.

Kisebe, A.W.J. (1987). "The organisation of Malawi's Smallholder Sugar Production under Irrigation". Paper presented in Mauritius at a symposium for Irrigated Crops.

Lamb, G. and Muller, L. "Control, Accountability and Incentives in a Successful Development Institution". World Bank Workshop Paper 550, 1982.

Malawi Government, Ministry of Agriculture. "An Investigation into the Levies Charges to Smallholder Farmers for the Services Provided by the STA", February 1983.

Malawi Government. National Statistical Office 1987 population census; preliminary report.

_____ Laws of Malawi

_____ National Sample Survey of Agriculture, 1980/81.

Nankumba, J.S. Tenure systems in the Estate Subsector of Malawi : The case of tenancy arrangement. Report to Winrock International and The Research/Publications Committee, University of Malawi, June, 1988.

Nankumba, J.S. and Machika, M. Dynamics of land tenure and agrarian systems in Africa: the case of Malawi. Research report to F.A.O. and Malawi Government, June 24, 1988.

Smallholder Tea Authority (STA) Management, September 1987.

Smallholder Sugar Authority (SSA) Management, Some Notes on the Background to the SSA Project.

The Malawi Gazette Supplement, Special Crops Ordinance, Government Notice No. 26, 20 January 1976.

Vitols, M. "Sharecropping and X-efficiency" Journal of Agricultural Economics. Vol. XXXVI, No. 1, (January 1985) pages 107-109.

Williams, S. and Karen, R. Agribusiness and the Small Scale Farmer. Westview Press, 1985.

ANNEX 1

Inventory of Contract Farming Schemes:
East and Southern Africa

	ESTATE		NUCLEUS-OUTGROWER		OUTGROWER	
	Public	Private	Public	Private	Public	Private
Cotton			Zimbabwe (3) 400 Zambia (1) 800		Uganda 100,000	Swaziland (1) 150 Zambia (1) 28,000
Tea	Uganda (6)	Kenya Uganda (100) Malawi wage Zimbabwe	Uganda 100 Tanzania (6) Zimbabwe (2) 600	Uganda 150 Malawi Tanzania (4)	Malawi Tanzania 28,000 Kenya	Uganda 11,000
Sugar	Uganda (1) Swaziland (1) Zambia (1)	Uganda (2) Swaziland (2) Zambia (2) Zimbabwe (2)	Kenya Uganda 3000 Swaziland (1) 260 Zambia (1) 85 Tanzania (4)	Uganda 1000 Malawi (2)		Swaziland (1+)
Tobacco	Malawi wage, tenant	Malawi wage, tenant Tanzania (11) Zimbabwe			Malawi	Uganda 2000
Dairy	Swaziland (1)		Uganda 4000		Swaziland (1) Tanzania (2)	
fruit & vegetable	Lesotho (1) Swaziland				Swaziland (1) 200	Lesotho (1) 1000 Swaziland (1+ Kenya Zimbabwe
Coffee	Malawi wage, tenant	Malawi wage, tenant			Uganda 450,000 Malawi	Malawi
Pineapple	Swaziland (1)	Kenya	Swaziland (1) 30			Swaziland (1) 20

Note: figures in brackets indicate the number of schemes; those without indicate the number of growers.

Source: IDRC: 3-P-86-0026, Project Identification Meeting (3-A-85-4163), Nairobi, Kenya, 1985

ANNEX II

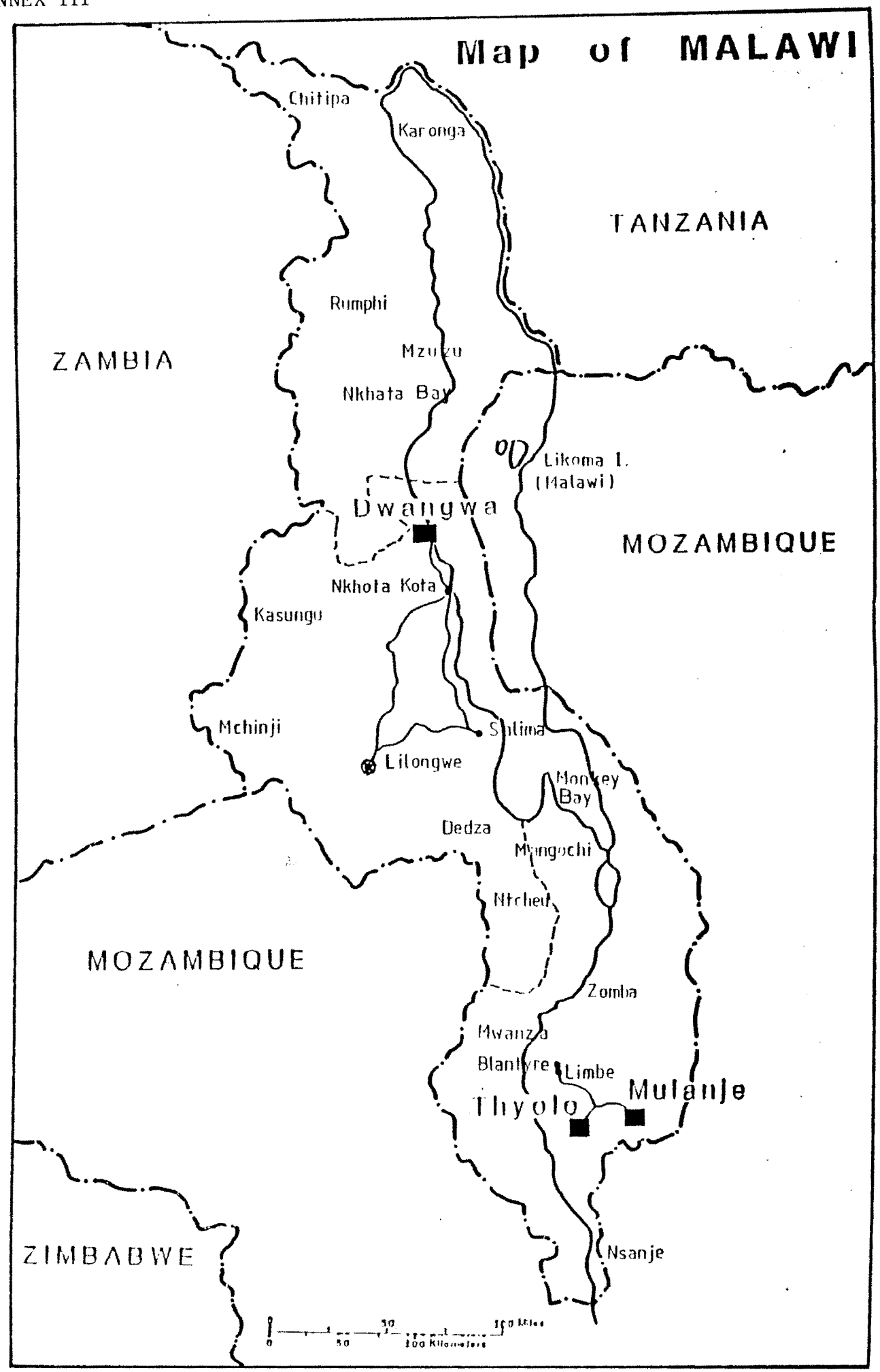
CASE STUDY CROPS BY COUNTRY

The sample of cases for the program was selected in order that each of these variables can be held constant and the factors which determine different outcomes identified. The sample selected by participants at the November 1985 project identification meeting (3-A-85-4163) is as follows:-

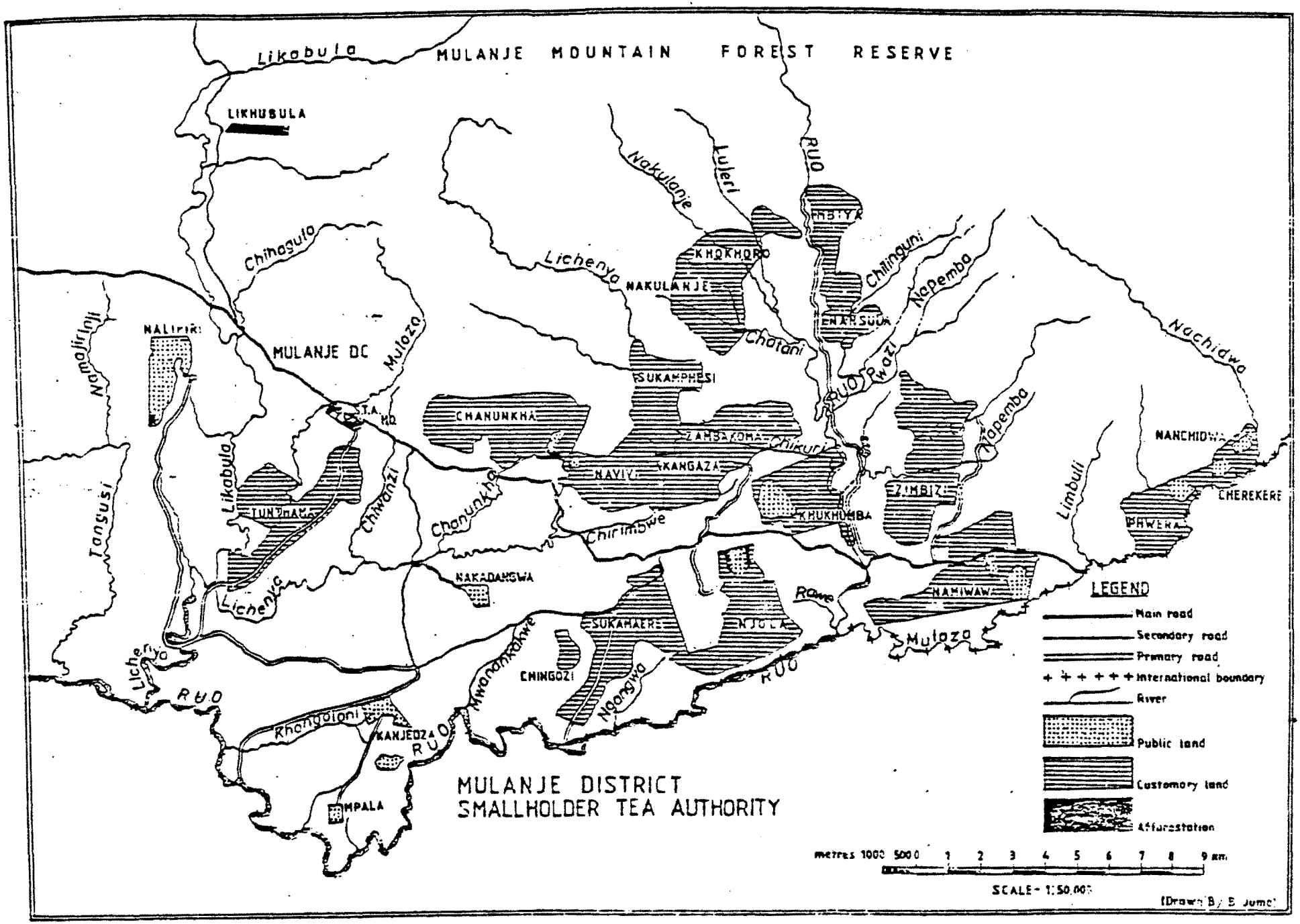
Countries	Sugar	Tea	Cotton	Non-traditional**
Kenya	X*	X*		X
Tanzania	X	X		
Malawi	X	X		
Zambia	X		X	
Zimbabwe			X	X
Swaziland			X	X
Lesotho				X

* from secondary data

** e.g. fruits, vegetables, oilseeds, pineapple


Map of MALAWI
Chitipa
Karonga
TANZANIA
Rumphi
ZAMBIA
Mzuzu
Nkhata Bay
Likoma I.
(Malawi)
Dwangwa
MOZAMBIQUE
Nkhota Kota
Kasungu
Mchinji
Salima
Lilongwe
Monkey
Bay
Dedza
Mangochi
Ntcheu
MOZAMBIQUE
Zomba
Mwanza
Blantyre
Limbe
Mulanje
Thyolo
ZIMBABWE
Nsanje
0
50
100 Kilometers
50
100 Miles

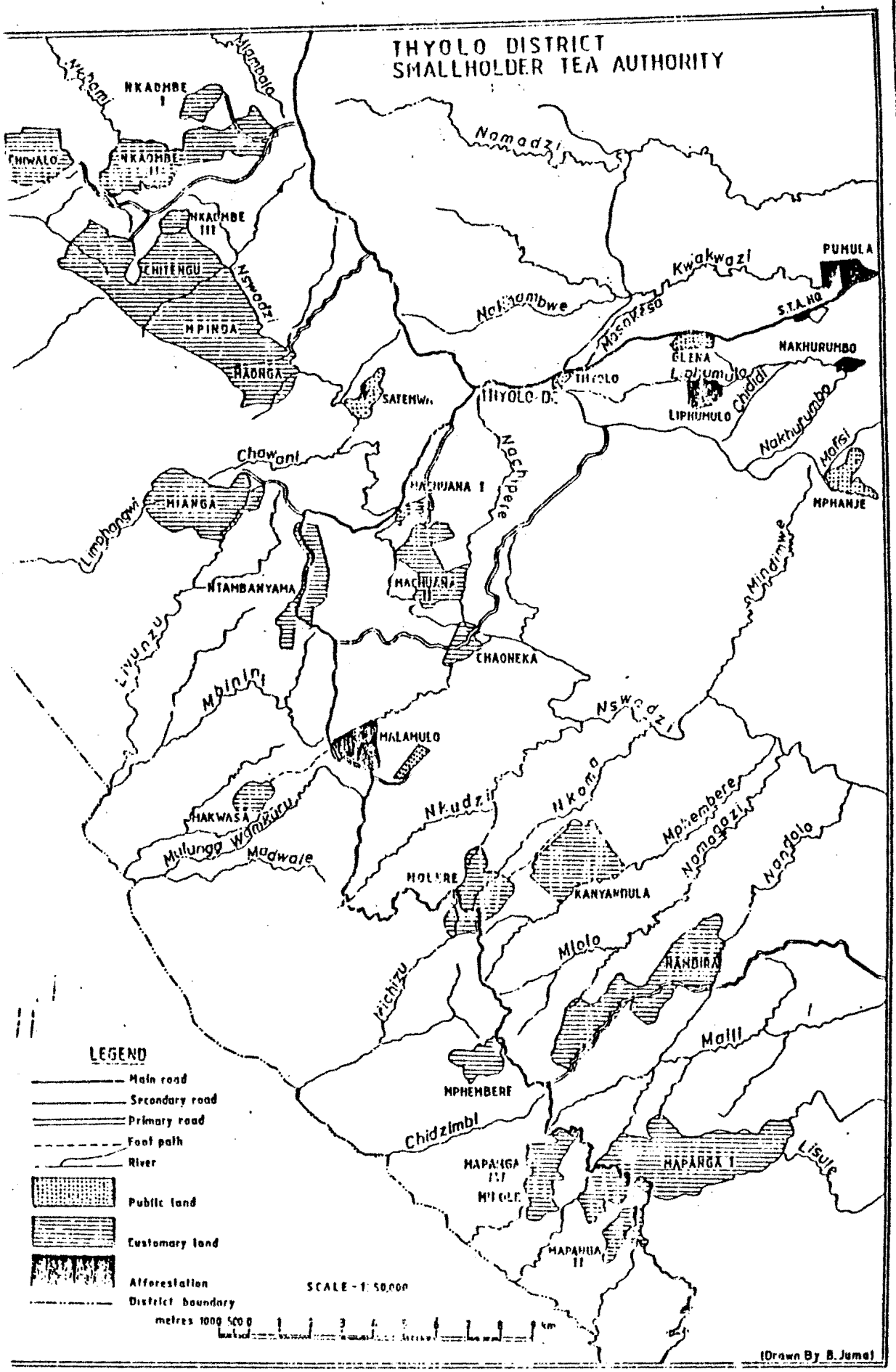
MAP I



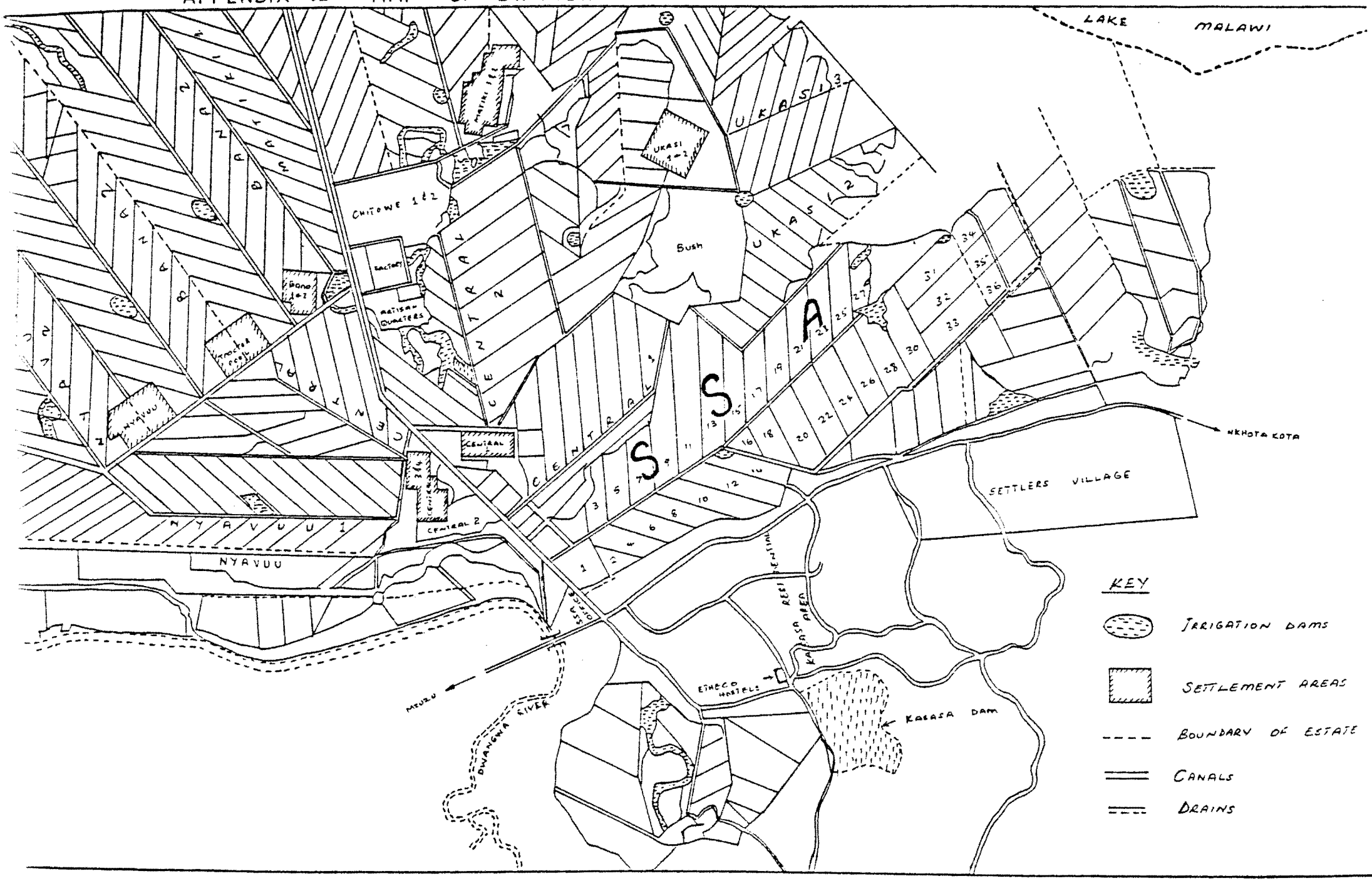
ANNEX IV

ANNEX V

MAP II



APPENDIX VI MAP OF DWANGWA



ANNEX VII

ORIGIN OF GROWERS BY REGION AND DISTRICT, DWANGWA, SSA, 1986

ORIGIN	n	%
Northern Region:	**40**	**22**
Chitipa	10	5
Karonga	11	6
Rumphi	2	1
Mzimba	16	9
Nkhata-Bay	1	1
Central Region:	**87**	**47**
Kasungu	4	2
Nkhota-kota	38	20
Ntchisi	10	5
Dowa	5	3
Mchinji	1	1
Lilongwe	7	4
Dedza	11	6
Salima	0	0
Ntcheu	11	6
Southern Region:	**60**	**33**
Mangochi	1	1
Machinga	2	1
Zomba	12	6
Blantyre	2	1
Thyolo	1	1
Mulanje	10	5
Mwanza	3	2
Chikwawa	6	3
Chiradzulu	6	3
Nsanje	5	3
Not applicable	12	7
	187	102*

* Does not total 100 due to rounding.

ANNEX VIII

GROWERS ON THE SCHEME

NAME OF GROWER:

SEX:

SOCIOLOGICAL ANALYSIS

1. When did you first join the scheme?

2. What is your age?

3. Did you always live here or were you recruited from another area?

   (a) Have always lived here
   (b) Came from another area

4. If you came from another area, mention the District and Region you came from.

   District
   Region

5. How did you earn your livelihood before joining the scheme?

6. If you have always lived here, how did you acquire the first plot of land?

   (a) Through traditional land inheritance practices
   (b) Was allocated the first plot by the authority
   (c) Bought the plot from an individual

7. In case you settled here from another area, state how you acquired your first plot of land

   (a) Was allocated the first plot by the authority
   (b) Bought the plot from an individual
   (c) Any other form of land acquisition

8. Is your holding typical of those in the area?

   Yes No

   If not, how does it differ?

9. What was the area of the first plot(s)?

   Hectares.

LAND USE AND PRODUCTIVITY

10. What is the total area of your plot(s) now?

11. What is your total hectarage planted to crops?

12. How did you enlarge the area of your original plot(s)?

    (a) By buying land from other households
    (b) By being allocated more land by the authority
    (c) By being allocated more land by the village headman/chief
    (d) By inheritance

13. How much of you land is devoted to the scheme's principle crop?

14. Have you varied the amount of land dedicated to the principle crop over the years? Yes No

    - Do you plan to change it in the future? Yes No

15. How do you decide how much of the land you farm to devote to the principle crop?

16. Do your family members participate in crop production? Yes No

    (a) In which tasks?
    (b) Do they also bring in income from other activities? Yes No
    (c) Which activities?

17. Do you own the following items?

    Hoe; tractor; ox-plough; rake; panga; ox-cart?

    Where did you buy them from?
    Was it cash or credit?

18. Does the authority provide any equipment for hire? Yes No

    (a) If yes, specify.
    (b) Does it provide any of these services:-

    Conservation works; extension; planting; weeding; harvesting; haulage; others (specify).

19. Did you use any of these:-

    (a) Fertilizers Yes No
    (b) Insecticides/pesticides Yes No
    (c) Weed killers/herbicides Yes No

    Specify where obtained, price (whether cash or credit).

20. Are these chemicals easily available from other sources?

    Fertilizers ; insectides/peciticides; weed killers/herbicides? Specify Yes or No.

21. Do you get loans from the authority? Yes No

    (a) At what interest rate? %
    (b) How are you expected to pay back the loan?

22. What do you use loans for?

23. Do you know of farmers who got loans from the authority and did not pay back? Yes No

    If yes, what happened to them?

    (a) How often do you think that happens?

24 If you needed money for expanding your holding, hwere or when would you normally go to borrow from?

25. Do you always succeed? Yes No

    If yes, do you always get the needed amount? Yes No

26. If not, what the the reasons?

27 Is the land you have enough for your farming needs? Yes No

    (a) If not, do you plan to obtain more? Yes No
    (b) If yes, how?
    (c) What is the total hectarage under all your crops?
    (d) What is the total hectarage under food crops?
    (e) If you had to expand your cultivated land between food crops and cash crops, what would you prefer and why?

    - Food crops - Cash crops

28. List the three important crops in your household in the last season. Specify the type of crop, number of plots, hectarage, amount harvested in bags/kgs, amount sold in bags/kgs, and amount stored in bags/kgs.

29. Is your food harvest generally enough to carry you from one harvest to the other? Yes No

30. If not, what are the reasons?

    (a)
    (b)
    (c)

31. In case of shortfall, how do you acquire the food for your family needs?

(a) Purchase of food
(b) Loans or gifts of food
(c) Other (specify)

32. (a)

Sources of Income	1984/85	1985/86	1986/87
Sales of principle crops			
Sales of other crops (specify)			
Employment			
Remittance			
Livestock			
Other (specify)			

(b)

Expenditure	1984/85	1985/86	1986/87
Farm charges:			
(i) Development charges (contribution for improvement of scheme)			
(ii) Extension advice			
(iii) Conservation works			
(iv) Replanting charge			
(v) Road maintenance (road charge)			

(c)

Machinery costs	1984/85	1985/86	1986/87
(i) Tractor hire			
(ii) Harvesting/picking (charge per tonne)			
(iii) Cultivation			
(iv) Fertilizer delivery			

(d) Stores Issue

(i) Fertilizer
(ii) Other (specify)

Other Costs

(i) Principle crop insurance
(ii) Living allowance
(iii) Medical charge
(iv) Interest on credit balance
(v) Miscellaneous

WELFARE AND INCOME ASPECTS

33. When did you start producing the principle crop on the scheme? Year

34. When you first joined the scheme, how long was it until you received your first crop payment?

    - How did you support yourself until you got the first payment?

35. If you ran up a debt during that period, has it been paid off? Yes No

36. Income from principle crop:-

Gross Income	1984/85	1985/86	1986/87
Expenses			
Interest payments			
Labourers			
Transport			
Inputs			
Other (specify)			

37. Net Income

    In each of the following years how much of the principle crop did you sell to the company/authority?

    1984/85; 1985/86; 1986/87

38. What benefits do you get from the scheme?

    (a)
    (b)
    (c)
    (d)

39. Which of these benefits is most important to you?

40. Have you encountered any problems on the scheme? Yes No

    - If yes, what are they?

      (a)
      (b)
      (c)
      (d)

41. Is it possible to sell the principle crop to anyone other than the authority? Yes No

    Have you done so? Yes No

    What are the other buyers' terms of sale like?

WELFARE AND INCOME ASPECTS

33. When did you start producing the principle crop on the scheme? Year

34. When you first joined the scheme, how long was it until you received your first crop payment?

- How did you support yourself until you got the first payment?

35. If you ran up a debt during that period, has it been paid off? Yes No

36. Income from principle crop:-

Gross Income	1984/85	1985/86	1986/87
Expenses			
Irterest payments			
Labourers			
Transport			
Inputs			
Other (specify)			

37. Net Income

In each of the following years how much of the principle crop did you sell to the company/authority?

1984/85; 1985/86; 1986/87

38. What benefits do you get from the scheme?

(a)
(b)
(c)
(d)

39. Which of these benefits is most important to you?

40. Have you encountered any problems on the scheme? Yes No

- If yes, what are they?

(a)
(b)
(c)
(d)

41. Is it possible to sell the principle crop to anyone other than the authority? Yes No

Have you done so? Yes No

What are the other buyers' terms of sale like?

42. If you were to leave the scheme, what would you do for your livelihood?

43. Do you know of people who had to move from this are to make way for the scheme? Yes No

- What happended to them?

ORGANISATIONAL ASPECTS

44. If there a growers' organization? Yes No

(a) If not, have there been any attempts to form one?
(b) Why did they not succeed?
(c) Would a growers' organization be useful to you?
(d) What would you want it to do?

45. If a growers organization exists, what does it do?

(a) Has this function changed over time?
(b) If yes, what did the organization do before?
(c) Is it useful to you?
(d) What other tasks would you like it to perform?
(e) Is it easy or difficult to make leaders listen to your concerns or act on your behalf?

CONTRACTUAL ASPECTS

46. To join the scheme, did you have to sign a contract with the authority? Yes No

- If yes, does the authority closely stick to the contract as it is written?
- If no, specify.

47. Have there been cases of farmers who did not stick to their contracts?

- If yes, what happened to them?

48. Do you own the land on which you are working?

- If not, who owns it?

49. How often do disagreements arise between the authority and individual growers?

- Between the authority and growers' organization?

50. (a) Are there any tasks currently done by the authority which you feel you could do yourself?

- If yes, what are they?
- Would you like to see the growers' organization do any of these tasks?

51. (a) Has the scheme lived up to the expectation you had when you decided to join? Yes No

(b) If not, in what ways are you disappointed?

(c) Have any things in the scheme exceeded your expectations?

TECHNOLOGICAL ASPECTS

52. (a) Did you grow the scheme's principle crop before joining this scheme? Yes No

(b) If so, has your technique for growing it changed since you joined the scheme? Yes No

(c) If so, do you believe the new technique is better?
Yes No

(d) Why?

(e) Have your yields increased? Yes NO

Why?

(f) Have your profits increased? Yes No

Why?

(g) In your opinion has the quality of the principle crop grown by you improved? Yes No

Why?

53. Has the authority recommended changesin farming practices frequently or just when you first joined?

54. Have you ever received visits from government extension workers, before or after joining the scheme? Yes No

How would you compare the service you received from them to the service you received from the authority?

55. Do you ask for extensionist's advice about farming problems you face?
Yes No

56. Does the authority charge you for extension services?
Yes No

Is this, in your view, a fair price? Yes No

Why?

57. Do you know of any techniques that are not being used in the scheme that might increase production? Yes No

58. Who makes most of the decisions about how your farm is rum? You or the scheme?

59. Do you use any hired labourers?
Yes No

How many?

What do they do?

How much are they paid?

Do they receive meals or lodgings?