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## INTRODUCTION

This is the second report of the Annual Survey of Agriculture (ASA) programme. The first report presents results for the 1981/82 ASA agricultural season. The present report covers the 1982/83, 1983/84 and 1984/85 seasons. The agricultural season in Malawi begins in October of one year and ends in September of the following year.

The programme was a joint exercise between the National Statistical Office (NSO) and the Ministry of Agriculture. These two organisations had co-operated in the NSSA 1980/81 and the 1981/82 ASA. The co-operation continued in the three seasons covered by this report. During the 1981/82 ASA, the share of field work between the NSO and the Ministry had been 50 per cent each. Then the Ministry of Agriculture gradually increased its share to about 57 per cent in the last three years of the ASA programme.

Under the National Rural Development Programme (NRDP) the country is divided into eight Agricultural Development Divisions (ADDs): Karonga and Mzuzu ADDs in the Northern Region; Kasungu, Salima and Lilongwe ADDs in the Central Region and Liwonde, Blantyre and Ngabu ADDs in the Southern Region. Each of these ADDs has an average of four Rural Development Projects (RDPs). Throughout the period of ASA programme some of the RDPs were funded, others were not funded. The Ministry of Agriculture conducted the ASA in funded RDPs and the NSO in the non-funded ones.

## PURPOSE OF THE ASA PROGRAMME

The ASA programme was intended to provide basic data requirements for:

- (a) estimation of national aggregates of crop production for use in compilation of national accounts;
  - (b) monitoring the effect of agricultural extension programmes as well as evaluation of the NRD<sup>P</sup> at the national level through a continuous supply of data; and
  - (c) establishment of priorities and formulation of socio-economic policy in the smallholder sub-sector of the rural economy.

#### SAMPLE DESIGN

1982/83 ASA Sample Design  
For the 1982/83 ASA the eight ADDs were taken as the strata.

These ADDs encompassed several strata that were used in the 1980/81 NSSA and Enumeration Areas (EAs) were listed within the ADD according to the NSSA strata that it enclosed. However, during the selection process this implicit stratification was ignored and the whole ADD was taken as the major stratum.

Budgetary constraints restricted the national sample size of the Primary Sampling Units (PSUs) to 200 EAs and that of the Secondary Sampling Units (SSUs) to 4000 farming households. According to the 1977 Population Census, there were a total of 4715 EAs that composed the rural farming population.

The 200 EAs were distributed to the ADDs on the basis of the square root of the total EAs in the ADDs. The assigned EAs were selected systematically within each ADD. All the farming households in the sample EA were listed and 20 households were selected systematically.

#### 1983/84 ASA Sample Design

The 1983/84 ASA used the same sample as that employed in the 1982/83 ASA. The only change was that a new listing of households within the EA was made from which a sample of 10 households was selected to be used in conjunction with 10 households which were retained from the 1982/83 ASA Sample.

#### 1984/85 ASA Sample Design

There was a change in sample design in 1984/85 ASA because there was need to have the data presented at RDPs level in which case the RDPs were taken as our strata. The same 200 EAs were distributed in 31 RDPs on the basis of the square root of the total number of EAs in the RDP.

The Enumerators were sent to the sample EAs where they listed all the farming households from which 20 sample households were selected systematically in each EA.

#### SURVEY ORGANISATION

The survey organisation during the period covered by this report remained essentially the same as that described in ASA 1981/82 Report.

The four NSD Regional Centres at Mzuzu, Lilongwe, Zomba and Blantyre supervised activities in the survey areas under the control of the NSD. The Regional Officer at each centre also co-ordinated survey progress with the ADDs within the Region. This was achieved through regular regional meetings with the Evaluation Officers of the ADDs.

The ratios of Field Officer to Supervisors and Supervisor to Enumerators were maintained more or less as they were during the NSSA 1980/81 and ASA 1981/82. There was one Field Officer for four Supervisors and one Supervisor for six Enumerators during these last seasons of the programme. The programme of supervision was such that each Enumerator was visited once a week by his Supervisor and each Supervisor once a week by a Field Officer or the Regional Officer. In some cases it was not possible to keep to this level of intensity of supervision because of various reasons.

#### TRAINING

Training for 1982/83 ASA was conducted at the end of October, 1982. The training lasted about one week and was done jointly with the Ministry of Agriculture. In addition to instructing field staff in the completion of the revised ASA schedules, the training also covered completion of the Malawi Demographic Survey Schedules. This Survey was conducted from 1st November to 31st December, 1982 just before the starting of data collection for ASA.

Training in the 1983/84 and 1984/85 agricultural seasons followed a similar pattern to the one described above. One week training was conducted jointly with the Ministry of Agriculture before starting data collection. The training for 1983/84 ASA included completion of schedules for two surveys which preceded ASA. The surveys were the Labour Force Survey and the Survey of Handicapped Persons. In 1984/85 the additional surveys included in the training were the Family Formation Survey, Wood Energy and Tree Planting Survey.

## SURVEY ORGANISATION

### DATA COLLECTION

Three schedules which were also used in 1981/82 ASA were revised in 1982 in the light of experience gained in the previous survey seasons. These schedules were:

- (a) Household Composition;
- (b) Garden Survey; and
- (c) Yield Study.

The revision involved in some cases addition of information to the existing schedules. After the revision there were still three schedules which were known as:

- (a) Household Composition Survey;
- (b) Plot Survey; and
- (c) Operator Survey

The Household Composition Survey, now to be conducted on quarterly basis instead of only once in an agricultural season included the following new items of information:

- (a) farm economic activities;
- (b) hire of farm labour;
- (c) livestock; and
- (d) remittances and gifts.

However, household labour availability, which the quarterly frequency was intended to measure, did not, after all, vary very much between quarters in one season. Hence, in this report data are presented for the average of the four quarters.

Separation of yield information from garden details as was the case before was found to be a serious shortcoming at a data processing stage. Therefore the old garden survey and the old Yield Study schedules were combined to form the Plot Survey.

The Operator Survey was similar to the Extension Survey used in the 1980/81 NSSA. Copies of all the above schedules are in the appendix.

### DATA PROCESSING

The NSO retained responsibility for ASA data processing though some of the ADDs had acquired computers. These ADDs processed ASA data to obtain tabulations for their own internal use. Later the ADDs forwarded their data on discs to the NSO for further processing and tabulation of data at ADD and national levels. This was necessary because of the need to conform to a uniform standard editing of the data before tabulation.

When forms were collected from the field, they were checked, batched and sent to the computer for keying the data. Keying was done on ICL micro-computer (DRS 20 Model 50). The data were then tabulated to obtain estimates on land holding size, cropping patterns, cultivated areas, crop yields and production.

### COST OF SURVEY

The participation of the NSO in the ASA programme was financed from a K1.2 million World Bank loan to Malawi Government under Phase III of the NRDP. The cost of these three surveys was about K1,054,000. Contribution of services by the NSO permanent staff was not included in this cost. It should be noted that ADDs used funds provided under funding arrangements of each RDP and these are also not included in the cost mentioned above.

### SUMMARY OF RESULTS

#### Holding Sizes

The ASA 1982/83, 1983/84 and 1984/85 estimated the total areas cultivated by smallholder farmers in Malawi at 1,218,200 hectares, 1,347,200 hectares and 1,445,400 hectares respectively. The total cultivated areas were operated as single holdings and were 1,156,800 in 1982/83; 1,193,100 in 1983/84 and 1,299,900 in 1984/85, thereby giving average holding size at 1.05 ha in 1982/83; 1.13 ha in 1983/84 and 1.11 ha in 1984/85. This shows that holding sizes did not vary markedly during this period.

The results also indicate that slightly over 53 per cent of the holdings were less than 1 ha in size in each survey period; while only four per cent were 3 ha in size or larger. This means that 43 per cent of the holdings were between 1 ha and less than 3 ha in size.

At the ADD level average holding size ranged from 0.74 ha in Blantyre ADD to 1.71 ha in Kasungu ADD in 1982/83. In 1983/84 the average size ranged from 0.84 ha in Blantyre ADD to 1.72 ha in Kasungu ADD, and in 1984/85 the average size ranged from 0.81 ha in Blantyre ADD to 1.64 ha in Kasungu ADD. Blantyre, Karonga and Lilongwe ADDs had average holding size less than 1 ha in all these three seasons while Salima ADD had the average holding size less than 1 ha in 1982/83 season only.

The results also show that Kasungu ADD had the largest proportions of large holdings (3 ha in size or larger) with 14 per cent in 1982/83, 13 per cent in 1983/84 and 11 per cent in 1984/85. This was followed by Ngabu ADD with 8 per cent in 1982/83 and 9 per cent in 1983/84 and also followed by Mzuzu ADD in 1984/85 with 10 per cent. Salima, Blantyre and Liwonde ADDs had the least proportions of large holdings with 1 per cent each in 1982/83 and 1983/84, and followed by Blantyre ADD in 1984/85 with 2 per cent.

As regards small holdings (less than 1 ha in size), Kasungu ADD had the least proportions of small holdings ranging from 28 per cent in 1982/83, 25 per cent in 1983/84 and 32 per cent in 1984/85. This was followed by Lilongwe ADD in 1982/83 and 1983/84 with 48 per cent and 43 per cent respectively, and also followed by Mzuzu ADD in 1984/85 with 43 per cent. Blantyre ADD had the largest proportions of the small holdings ranging from 74 per cent in 1982/83, 67 per cent in 1983/84 and 70 per cent in 1984/85. This was followed by Liwonde ADD in 1982/83 and 1983/84 with 69 per cent and 65 per cent respectively; and also followed by Karonga ADD in 1984/85 with 64 per cent (Tables 1.5, 2.5 and 3.5).

#### Cropping Pattern

Of the total estimated areas cultivated by smallholder farmers, about 90 per cent was devoted to food crops, mostly maize which is the staple food was 82 per cent in 1982/83, 79 per cent in 1983/84 and 78 per cent in 1984/85. Rice, groundnuts and pulses which are grown for both home consumption and sale took the second largest proportion of the total cultivated area with 16 per cent in 1982/83 and 1983/84 and 19 per cent in 1984/85 (Tables 1.7A, 2.7A and 3.7A and Table A below).

Non-food crops took up the least proportions of the total cultivated areas by smallholder farmers in all the three seasons. The main crops in this category are tobacco and cotton which together took up 96 per cent in 1982/83, 98 per cent in 1983/84 and 97 per cent in 1984/85 of the total area devoted to non-food crops (Table A below). The main tobacco growing areas in Malawi are Kasungu and Lilongwe ADDs which together took up 96 per cent in 1982/83, 90 per cent in 1983/84 and 92 per cent in 1984/85 of the total area devoted to tobacco. Of the total area devoted to cotton, Ngabu, Salima and Liwonde ADDs took up largest proportions with 90 per cent in 1982/83, 93 per cent in 1983/84 and 85 per cent in 1984/85 (Tables 1.7A, 2.7A and 3.7A).

Table A: Total Cultivated Area By Major Crops

Crop	1982/83		1983/84		1984/85	
	Hectares	%	Hectares	%	Hectares	%
All Crops	1,218,200	100.0	1,347,200	100.0	1,445,400	100.0
Food Crops:	1,173,000	96.3	1,264,800	93.9	1,352,500	93.6
of which						
Maize	997,900	81.9	1,063,400	78.9	1,126,500	77.9
Tobacco	24,000	2.0	46,000	3.4	44,100	3.1
Cotton	19,800	1.6	35,000	2.6	45,600	3.2
Other	1,600	0.1	1,400	0.1	3,300	0.2

#### Fertiliser Application on Maize

Table B below shows that, at national level, of the total area devoted to maize in 1982/83 only 28 per cent was fertilised. The corresponding proportions for 1983/84 and 1984/85 are 26 per cent and 27 per cent respectively.

At ADD level, of the total area devoted to maize Mzuzu ADD had the highest proportions of fertilised area with 58 per cent in 1982/83, 56 per cent in 1983/84 and 52 per cent in 1984/85. This was followed by Kasungu ADD in 1982/83 with 35 per cent, Lilongwe ADD in 1983/84 with also 35 per cent and Kasungu ADD again in 1984/85 with 34 per cent. Ngabu ADD had least proportions of fertilised area with 0.4 per cent in 1982/83, 0.3 per cent in 1983/84 and 2 per cent in 1984/85.

TABLE B Fertiliser Application On Maize By ADD

Agricultural Season and ADD	Total Area ('000 ha)	Area Fertilised ('000 ha)	% Fertilised
1982/83			
Malawi	997.9	277.4	28
Karonga	14.6	2.2	15
Mzuzu	73.9	42.6	58
Kasungu	204.0	71.8	35
Salima	53.8	9.8	18
Lilongwe	247.8	79.7	32
Liwonde	180.3	25.1	14
Blantyre	191.7	46.1	24
Ngabu	31.8	0.1	0.3
1983/84			
Malawi	1,063.4	271.3	26
Karonga	16.9	2.3	14
Mzuzu	79.8	44.4	56
Kasungu	194.9	65.6	34
Salima	75.6	12.2	16
Lilongwe	255.7	90.3	35
Liwonde	190.1	33.2	17
Blantyre	222.1	23.3	10
Ngabu	28.3	0.1	0.4

1984/85				
Malawi	1,126.5	309.5	27	
Karonga	20.2	5.8	29	
Mzuzu	131.0	68.2	52	
Kasungu	220.9	76.1	34	
Salima	50.2	9.4	19	
Lilongwe	220.3	68.6	31	
Liwonde	265.0	53.9	20	
Blantyre	195.8	27.0	14	
Ngabu	23.0	0.5	2	

#### Maize Production

Maize production by smallholder farmers in Malawi was estimated at 1,080,500 tonnes in 1982/83, 1,315,400 tonnes in 1983/84 and 1,294,900 tonnes in 1984/85. The main producing areas are Kasungu and Lilongwe ADDs which accounted for about 53 per cent of the total production in 1982/83, 46 per cent in 1983/84 and also about 46 per cent in 1984/85. The ADDs which produced less maize than the rest are Karonga and Ngabu which accounted for only 2 per cent in 1982/83, about 3 per cent in 1983/84 and about 4 per cent in 1984/85. These ADDs produced less maize because some proportions of the land in Karonga ADD are devoted to growing rice and cassava while in Ngabu ADD it is sorghum and rice.

Maize production per holding was highest in Kasungu ADD throughout the period with 21 bags (each bag weighing 90 kilograms) in 1982/83 and 1984/85 and 20 bags in 1983/84. This was followed by Lilongwe ADD with 13 bags in 1982/83 and 16 bags in 1983/84, but followed by Mzuzu ADD in 1984/85 with 17 bags. Ngabu ADD produced the lowest amount with only 2 bags in 1982/83, about 4 bags in 1983/84 and about 3 bags in 1984/85 (Tables 1.9B, 2.9B and 3.9B and also Table C below).

Table C Maize Production By ADD

ADD	1982/83			1983/84			1984/85		
	Total production ('000 tonnes)	% Production	Production per Holding (Kg)	Total Production ('000 tonnes)	% Production	Production per Holding (Kg)	Total Production ('000 tonnes)	% Production	Production per Holding (Kg)
Malawi	1,080.5	100.0	934	1,315.4	100.0	1,103	1,294.9	100.0	996
Karonga	17.5	1.6	542	16.8	1.3	511	28.0	2.2	805
Mzuzu	92.4	8.6	1,085	96.6	7.3	1,065	175.2	13.5	1,487
Kasungu	291.3	27.0	1,915	271.9	20.7	1,786	318.8	24.6	1,884
Salima	77.1	7.1	914	119.7	9.1	1,374	80.4	6.2	1,069
Lilongwe	279.6	25.9	1,203	334.3	25.4	1,438	272.1	21.0	1,178
Liwonde	156.3	14.5	633	202.5	15.4	860	224.4	17.3	743
Blantyre	155.2	14.4	562	252.6	19.2	843	176.7	13.6	607
Ngabu	11.1	1.0	191	21.0	1.6	334	19.3	1.5	246

STATISTICAL TABLES

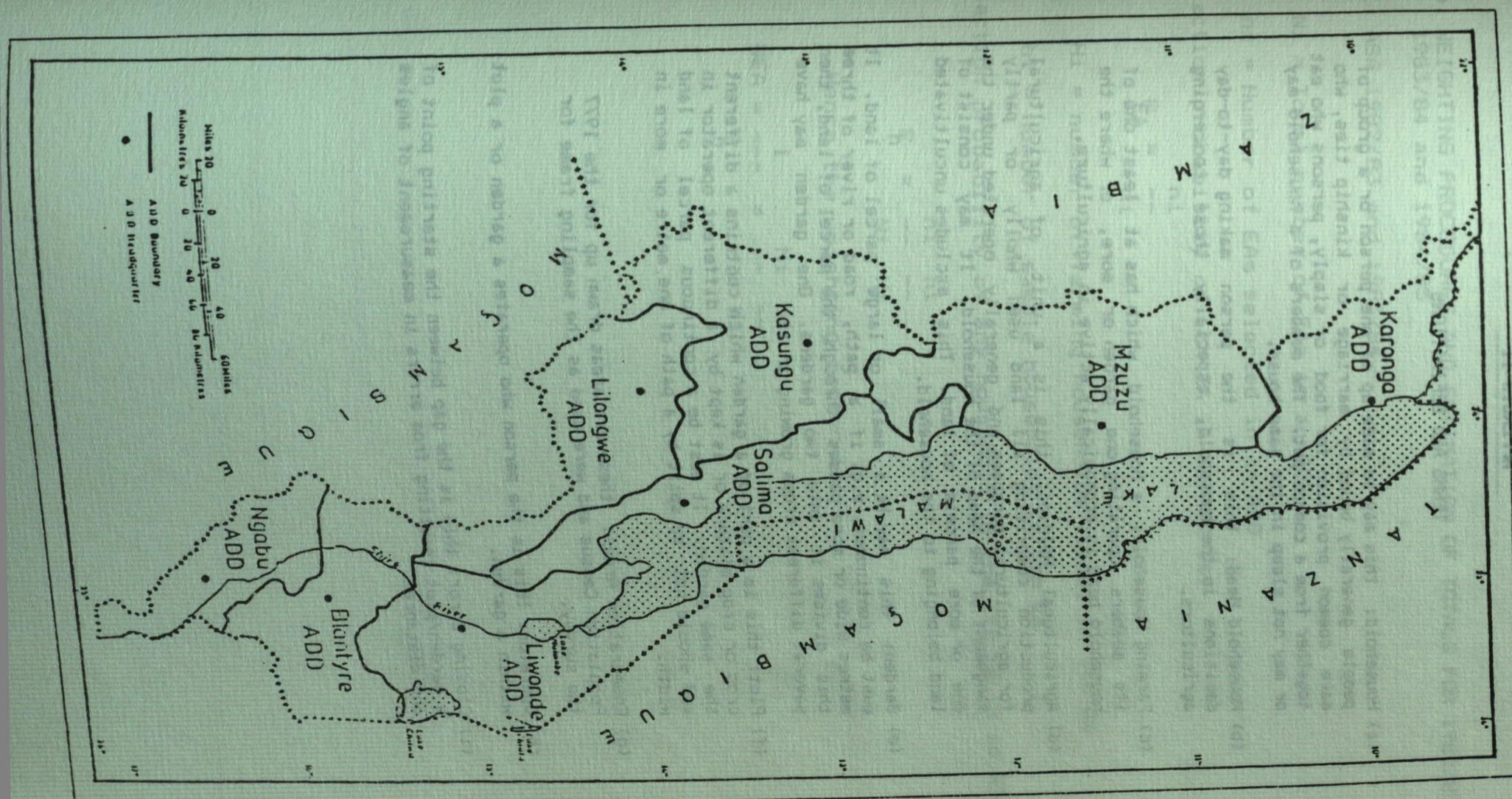
**NOTE:** The symbol † stands for less than 0.005

A S A 1982/83

FOR

**NOTE:** The symbol † stands for less than 0.005

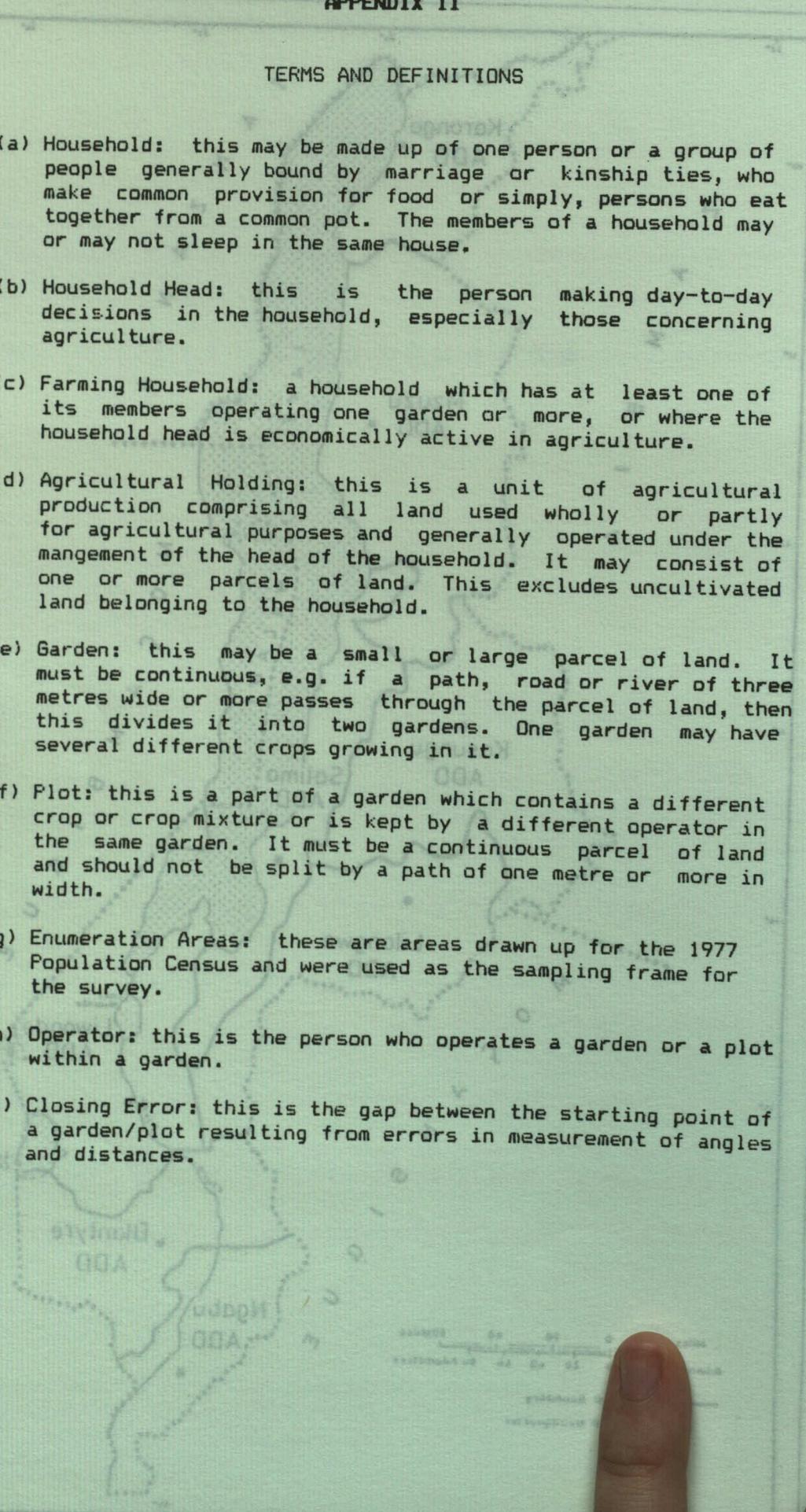
## APPENDIX I: MAP OF MALAWI SHOWING AGRICULTURAL DEVELOPMENT DIVISIONS (ADDs)



APPENDIX II  
MAP OF JAMMU AND KASHMIR SHOWING AGRICULTURAL DEVELOPMENT DIVISIONS (VILLAGE)

APPENDIX II

TERMS AND DEFINITIONS

- (a) Household: this may be made up of one person or a group of people generally bound by marriage or kinship ties, who make common provision for food or simply, persons who eat together from a common pot. The members of a household may or may not sleep in the same house.
  - (b) Household Head: this is the person making day-to-day decisions in the household, especially those concerning agriculture.
  - (c) Farming Household: a household which has at least one of its members operating one garden or more, or where the household head is economically active in agriculture.
  - (d) Agricultural Holding: this is a unit of agricultural production comprising all land used wholly or partly for agricultural purposes and generally operated under the management of the head of the household. It may consist of one or more parcels of land. This excludes uncultivated land belonging to the household.
  - (e) Garden: this may be a small or large parcel of land. It must be continuous, e.g. if a path, road or river of three metres wide or more passes through the parcel of land, then this divides it into two gardens. One garden may have several different crops growing in it.
  - (f) Plot: this is a part of a garden which contains a different crop or crop mixture or is kept by a different operator in the same garden. It must be a continuous parcel of land and should not be split by a path of one metre or more in width.
  - (g) Enumeration Areas: these are areas drawn up for the 1977 Population Census and were used as the sampling frame for the survey.
  - (h) Operators: this is the person who operates a garden or a plot within a garden.
  - (i) Closing Error: this is the gap between the starting point of a garden/plot resulting from errors in measurement of angles and distances.
- 

APPENDIX III

1.0 WEIGHTING PROCEDURES AND ESTIMATION OF TOTALS FOR 1982/83,  
1983/84 and 1984/85

1.1 ASA 1982/83 and 1983/84

$N_i$  = Total number of EAs in an ADD

$n_i$  = Number of EAs selected in an ADD

Selection probability of  $i$ th EA in an ADD is:

$$P_{EA} = \frac{n_i}{N_i}$$

$H_i$  = number of farming households listed in  $i$ th EA

$h_i$  = number of sample households in  $i$ th EA

Selection probability of any household in the  $i$ th EA in an ADD is:

$$P_h = \frac{n_i h_i}{N_i H_i}$$

Hence the weighting factor is:-

$$WEA = \frac{1}{P_h} = \frac{N_i H_i}{n_i h_i}$$

Suppose information on one of the Characteristics say  $y$  is collected. An estimate of  $Y$ , that is the total value of  $y$  in the ADD  $i$  was given by :-

$$\hat{Y} = \frac{N_i}{n_i} \sum_i \frac{H_i}{h_i} \sum_j Y_{ij}$$

$$= \frac{N_i}{n_i} \sum_i H_i \bar{y}_i.$$

where  $Y_{ij}$  is Value of characteristic  $y$  for  $j$ th household in  $i$ th EA

$\bar{y}_i$  : is Average Value of  $y$  per household in  $i$ th EA

The estimated variance was approximately given by:

$$\hat{V}(y) = \frac{N}{n} \frac{1}{(n-1)} \sum_i \left( H_i \bar{y}_i - \frac{1}{n} \sum_i H_i \bar{y}_i \right)^2$$

#### 1.2 ASA 1984/85

$n$  = number of EAs Selected in a project  
(= 2 replicates used that year)

$P_i$  = 1977 farming population of  $i$ th EA

$\sum P_i$  = Total farming population of project

Selection probability of an  $i$ th EA is:

$$\frac{P_i}{\sum p_i}$$

$H_i$  = number of farming households listed in  $i$ th EA

$h_i$  = number of sample households in  $i$ th EA

Selection probability of a household in the  $i$ th EA is:

$$p_h = \frac{P_i h_i}{\sum p_i H_i}$$

Therefore the weighting factor is:

$$W_{EA} = \frac{1}{p_h} = \frac{\sum p_i H_i}{n p_i h_i}$$

$Y_{ij}$  = Value of Characteristics  $y$  of household  $j$  in  $i$ th EA

$y_i = \sum_j Y_{ij}$  = Total value of Characteristics  $y$  over all sample households in  $i$ th EA

The project total,  $y$ , is estimated as

$$\hat{Y} = \sum_{i=1}^n \left( \frac{\sum p_i H_i}{n p_i h_i} \right) Y_i = \sum_{i=1}^n Y_i$$

It was also convenient to define  $t_i$  as an estimate from  $i$ th EA for the whole project

$$\text{i.e. } t_i = n Y_i = \left( n W_{EA} \right) Y_i = \left( \frac{\sum p_i H_i}{n p_i h_i} \right) Y_i.$$

$$\text{Hence } \hat{y} = \frac{1}{n} \sum_{i=1}^n t_i$$

$$\text{and } \hat{V}(y) = \frac{1}{n} \left[ \sum_{i=1}^n (t_i - \hat{y})^2 \right] / (n-1)$$

CONFIDENTIAL

ANNUAL SURVEY OF AGRICULTURE  
HOUSEHOLD SURVEY

Comments on Household Listing

IDENTIFICATION

Household Head	
Village	
T.A.	
District	
Enumeration	

Survey Number	1	(2)
ADD/Project		(4)
Stratum		(7)
ASA EA		(10)
Sampling No.		(12)
Household No.		(14)
Form Number	1	(15)

INSTRUCTIONS: This questionnaire is used four times;

VISIT CODE	DATE OF INTERVIEW	REFERENCE PERIOD
1	Last week Oct/ 1st week Nov	Since end of previous wet season harvest
2	Last week Jan/ 1st week Feb	Since last visit
3	Last week April/ 1st week May	Since last visit
4	Last week July/ 1st week August	Since last visit

This questionnaire has 5 sections

- A: List all permanent resident members of the household at the time of interview
- B: Record all off farm economic activity engaged in by members of the household during the reference period
- C: Record all farm labour hired by the household during the reference period.
- D: Record all remittances/gifts of cash and grain received during the reference period.
- E: Record all livestock owned at the time of interview and sales during the reference period.

DATE OF INTERVIEW AND CHECKING

VISIT	1		2		3		4	
	ENUMERATOR	Initials	CALL-BACK	Initials	SUPERVISOR	Date	Initials	Initials
DATE OF INTERVIEW					1ST CHECK			
					2ND CHECK			
OFFICE					1	2	3	4
1ST CHECK					Date	Initials	Date	Initials
2ND CHECK								

A: HOUSEHOLD LISTING RECORD TYPE 1 (16)																								
A1	PERSON N°	A2	A3	A4	A5	A6	A7	AVAILABILITY		A1	PERSON N°	A2	A3	A4	A5	A6	A7	AVAILABILITY						
NAME		REL TO HEAD	AGE	SEX	EDU LEVEL	R.S.		1	2	3	4	NAME	REL TO HEAD	AGE	SEX	EDU LEVEL	R.S.		1	2	3	4		
0 1	1							(28)		1	1												(138)	
0 2												(40)		1	2									(150)
0 3												(52)		1	3									(162)
0 4												(64)		1	4									(174)
0 5												(76)		1	5									(186)
0 6												(88)		1	6									(198)
0 7												(100)		1	7									(210)
0 8												(112)		1	8									(222)
0 9												(124)		1	9									(234)
1 0												(136)		2	0									(246)

CODES: A2: RELATIONSHIP TO HEAD    A4: SEX    A5: HIGHEST EDUCATIONAL LEVEL    A6: RESIDENTIAL STATUS    A7: AVAILABILITY

1. HEAD	1. MALE	1. NONE	1. RESIDENT	1. PRESENT
2. SPOUSE	2. FEMALE	2. LITERACY TRAINING	2. POLYGAMIST SPENDING TIME WITH OTHER WIFE(S)	2. ABSENT < 2 WEEKS
3. SON/DAUGHTER		3. STD I - STD II	3. RESIDENT AT LOCAL SCHOOL	3. ABSENT < 4 WEEKS
4. PARENT OF HEAD/SPOUSE		4. STD III - STD IV	4. RESIDENT AWAY AT SCHOOL/COLLEGE	4. ABSENT < 6 WEEKS
5. GRANDCHILD		5. STD V - STD VIII	5. VISITOR	5. ABSENT < 8 WEEKS
6. SON/DAUGHTER-IN-LAW		6. SOME SECONDARY	6. OTHER	6. ABSENT > 8 WEEKS
7. OTHER RELATIVE		7. SECONDARY COMPLETED		
8. RESIDENT HIRED LABOUR		8. OTHER/UNKNOWN		
9. OTHER				

## B: OFF FARM ECONOMIC ACTIVITY

RECORD TYPE 2 (16)

Comments

ENTRY NUMBER	B1 VISIT	B2 ACTIVITY	B3 PERSON NUMBER	B4 N° OF DAYS
0 1				(24)
0 2				(32)
0 3				(40)
0 4				(48)
0 5				(56)
0 6				(64)
0 7				(72)
0 8				(80)
0 9				(88)
1 0				(96)
1 1				(104)
1 2				(112)
1 3				(120)
1 4				(128)
1 5				(136)
1 6				(144)

## C: HIRED FARM LABOUR

RECORD TYPE 3 (16)

ENTRY NUMBER	C1 VISIT	C2 ACTIVITY	C3 ADULT/CHILD	C4 N° OF WORKERS	C5 N° OF DAYS
0 1					(25)
0 2					(34)
0 3					(43)
0 4					(52)
0 5					(61)
0 6					(70)
0 7					(79)
0 8					(88)
0 9					(97)
1 0					(106)
1 1					(115)
1 2					(124)
1 3					(133)
1 4					(142)
1 5					(151)
1 6					(160)

CODES: B21 ACTIVITY

1. FISHING
2. BEER BREWING
3. BASKET/MAT MAKING
4. BRICK MAKING
5. CHARCOAL MAKING
6. PAID EMPLOYMENT (AGRICULTURE)
7. PAID EMPLOYMENT (OTHER)
8. OTHER/UNKNOWN
9. NONE

CODES: C21 ACTIVITY

1. LAND PREPARATION/PLANTING
2. WEEDING
3. FERTILIZER APPLICATION/SPRAYING
4. HARVESTING
5. TRANSPORTATION
6. GRADING
7. COMBINATION OF ABOVE
8. OTHER
9. NONE HIRED

C31 ADULT/CHILD

1. ADULT
2. CHILD

## D: REMITTANCES/GIFTS OF CASH AND STAPLE FOOD

Record Type 4 (16)

Comments

ENTRY NUMBER	D1 VISIT	D2 TYPE	D3 VALUE
0 1			(21)
0 2			(26)
0 3			(31)
0 4			(36)
0 5			(41)
0 6			(46)
0 7			(51)
0 8			(56)
0 9			(61)
1 0			(66)
1 1			(71)
1 2			(76)
1 3			(81)
1 4			(86)
1 5			(91)
1 6			(96)

CODES: TYPE

1. CASH
2. STAPLE FOOD
9. NO REMITTANCE OR GIFT RECEIVED

VALUE

1. K1 - K5
2. K6 - K10
3. K11 - K15
4. K16 - K30
5. MORE THAN K30
6. OTHER/ UNKNOWN

## E: LIVESTOCK

Record Type 5 (16)

## 1ST VISIT

OWNED KEPT IN VILLAGE	OWNED KEPT ELSEWHERE	VISIT	E1 ENTRY	E2 TOTAL STOCK	E3 SALES IN PERIOD
CATTLE		1			(23)
SHEEP		1			(30)
GOATS		1			(37)
PIGS		1			(44)

## 2ND VISIT

CATTLE	2				(51)
SHEEP	2				(58)
GOATS	2				(65)
PIGS	2				(72)

## 3RD VISIT

CATTLE	3				(79)
SHEEP	3				(86)
GOATS	3				(93)
PIGS	3				(100)

## 4TH VISIT

CATTLE	4				(107)
SHEEP	4				(114)
GOATS	4				(121)
PIGS	4				(128)

CODES: ENTRY

YES

NO

**CONFIDENTIAL**  
**ANNUAL SURVEY OF AGRICULTURE**  
**PLOT SURVEY**

**SKETCH:** Draw a sketch of the whole garden indicating clearly the plot covered by this form.

## IDENTIFICATION

Household Head	
Village	
T/A	
District	
Enumerator	
Date	

Survey Number	2	(2)
ADD/Project		
Stratum		(4)
ASA E. A.		(7)
Sampling No.		(10)
Household Number		(12)
		(14)

**CHECKING AND DATE OF INTERVIEW**

136

1st  
MAIN CROP                  2ND  
MAIN CROP                  3RD  
MAIN CROP

**Codes**

1

三

1. Plot Identification: Garden  (16)

Operator Number Plot 10117  
2. Specify: B1 B2 (18)

2. Specify: .....

3. Plot Area

**I APPLIED?** YES  1  (38)

DETAILS:	NO	2
Not applicable	CHOSEN VENDEE/OWNER	

	TIME	TYPE	HOW
10:00 AM	<input type="text"/>	<input type="text"/>	<input type="text"/>
10:30 AM	<input type="text"/>	<input type="text"/>	<input type="text"/>

(41)

(44)

Volume 10, No. 1, January 2007 • ISSN 1062-1024 • 100

ight/2-4 weeks after transplanting.

ht and tasseling/5-8 weeks after transplanting

er 8 weeks after transplanting.

## HOW

1.	Banding
----	---------

**2. Dollup**  
**3. Broadcasting**  
**4. Other/Unknown**

REMARKS

**ES:** Leave blank if not applicable.  
ks was rice/tobacco in a

Was there tobacco in a nursery?  (46)

NO	2

[ ] [ ] [ ] (50)

Digitized by srujanika@gmail.com

	(13) CROP TYPE	(14) DATE PLANTED	(15) SEED OBTAINED	(16) NO. YSP PLANTS/ TREES	(17) NO. YSP PLANTING STATIONS	(18)	(19)	(20)	(21)	(22)
HARVEST RECORD										
51) Specify: (78) Specify:	MAIZE	MONTH HALF				NO. COBS HARVEST	NO. COBS MISSING	WT. SHELLED	REASON ZERO YIELD	MOISTURE
52) 1										
52) 2										
(105) Specify: (130) Specify:										
3	G-NUTS	MONTH HALF				WT. HARVEST UNSHELLED	WT. SUB-SAMPLE UNSHELLED	WT. SUB-SAMPLE SHELLLED	REASON ZERO YIELD	MOISTURE
4										
(155) Specify: (176) Specify: (197) Specify:										
5	OTHER	MONTH HALF				WT. HARVEST SHELLLED			REASON ZERO YIELD	MOISTURE
6										
7	SUCCESSIVE	MONTH HALF								

CODES: MONTH HALF  
 01 JANUARY 1 FIRST HALF  
 02 FEBRUARY 2 SECOND HALF  
 etc.  
 99 UNKNOWN 9 UNKNOWN

#### SEED OBTAINED

- 1 PROJECT/SCHEME CREDIT
- 2 AS SEED FROM ADMARC
- 3 AS FOOD FROM ADMARC
- 4 BOUGHT LOCALLY (INCLUDING PAYMENT FOR LABOUR AND BARTER)
- 5 GIFT
- 6 RETAINED FROM LAST YEAR
- 7 OTHER

#### REASON ZERO/UNKNOWN YIELD

- 1 CROP ABANDONED
- 2 HARVESTED BY OPERATOR
- 3 TREATMENT ERROR
- 4 WHOLE PLOT AS Y.S.P.
- 5 OTHER

400 MAIZE  
 401 local  
 402 SR52/MH12  
 403 other hybrid  
 404 hybrid once grown  
 405 UCA  
 406 CCA  
 407 Bantum  
 408 Mixtures  
 409 other/unknown

410 RICE  
 411 kilombera  
 412 other local  
 413 faya  
 414 bluebonnet  
 415 bluebell  
 418 mixture  
 419 other/unknown

420 MILLET  
 421 bullrush  
 422 finger  
 427 millet/sorghum mix  
 428 mixture (millets)  
 429 other/unknown

430 SORGHUM  
 431 local  
 432 selected local  
 433 improved  
 434 sweet stalks  
 435 brewing sorghum  
 438 mixture  
 439 other/unknown

440 OTHER GRAINS  
 441 wheat  
 442 sunflower  
 443 castor seed  
 444 sesame  
 445 gram  
 448 mixture  
 449 other/unknown

450 ROOT CROPS  
 451 cassava  
 456 sweet potatoes  
 457 irish potatoes  
 458 yam  
 459 mix/other/unknown

460 GROUNDNUTS  
 461 kalisere  
 462 other local variety  
 463 chalimbana  
 464 mwitunde  
 465 manipinta  
 466 malimba  
 468 mixture  
 469 other/unknown

470 PULSES  
 471 green beans  
 472 ground beans  
 473 dolichos beans  
 474 soya beans  
 475 white haricot  
 476 guar beans  
 478 mixed beans  
 479 other/unknown

480 SORGHUM  
 481 chick peas  
 482 cow peas  
 483 pigeon peas  
 488 mixed peas  
 489 other/unknown

490 COTTON  
 499 other/unknown

500 TOBACCO  
 501 dark fired  
 502 sun/air  
 503 burley  
 504 flue cured  
 505 oriental  
 509 other/unknown

510 BEVERAGE CROPS  
 511 tea  
 512 coffee  
 513 cocoa  
 519 other/unknown

520 VEGETABLES  
 521 cabbage  
 522 pumpkin  
 523 onions  
 524 carrots  
 525 tomatoes  
 526 squash  
 527 eggplant  
 528 turnips  
 529 chillies/peppers  
 530 melons  
 531 okra

537 greens/spinach/lettuce  
 538 mixture/dimba garden  
 539 other/unknown

540 OTHER CROPS  
 541 sugar cane  
 542 ninde  
 549 other/unknown

550 FRUIT TREES  
 551 mangoes  
 552 bananas  
 553 pawpaw  
 554 avocados  
 555 guavas  
 556 oranges  
 557 lemons  
 558 limes  
 559 tangerines  
 560 grapefruit  
 561 citrus mixture  
 562 pineapple  
 563 peach  
 564 apple  
 568 mixture  
 569 other/unknown

570 TREES  
 571 macadamia  
 572 cashew  
 573 tung  
 574 cassia  
 575 gmelina  
 576 bluegum  
 577 cedrella  
 578 mixture  
 579 unknown/other

580 FALLOW/PASTURES  
 581 virgin land  
 582 regenerated bush land  
 583 fallow  
 584 grass  
 585 leucaena  
 589 other/unknown

590 MIXTURES  
 (for crop rotation)  
 591 maize/groundnuts  
 592 maize/pulses  
 593 maize/cassava  
 599 other/unknown

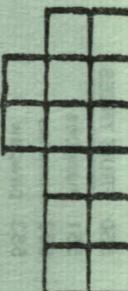
CONFIDENTIAL

**ANNUAL SURVEY OF AGRICULTURE  
GARDEN/PLOT AREA WORKSHEET  
(NOT TO BE KEYED)**

**IDENTIFICATION**

Household	
Village	
T/A	
District	
Enumerator	
Date	

ADD/Project  
Stratum  
A.S.A. E.A.  
Sampling No.  
Household No.  
Garden Number



GARDEN	DATE 1ST SURVEY	INITIALS	X- RESURVEY	DATE RESURVEY	INITIALS	X- RESURVEY
PLOT 01						
PLOT 02						
PLOT 03						
PLOT 04						
PLOT 05						
PLOT 06						
PLOT 07						
PLOT 08						
PLOT 09						

BEFORE COPYING AN AREA ONTO A PLOT SURVEY FORM; CHECK

- (a) IDENTIFICATION - Household number  
Name of household head  
Garden number  
Plot number  
Operator number
- (b) GARDEN SKETCH
- (c) MAIN CROPS IN THE PLOT

**SKETCH**

CLEARLY NUMBER ALL PLOTS

NORTH  
ARROW

PLOT NUMBERING PLAN

1. 100' X 100' PLOTS

2. 100' X 100' PLOTS

3. 100' X 100' PLOTS

4. 100' X 100' PLOTS

5. 100' X 100' PLOTS

6. 100' X 100' PLOTS

7. 100' X 100' PLOTS

8. 100' X 100' PLOTS

9. 100' X 100' PLOTS

10. 100' X 100' PLOTS

11. 100' X 100' PLOTS

12. 100' X 100' PLOTS

13. 100' X 100' PLOTS

14. 100' X 100' PLOTS

15. 100' X 100' PLOTS

16. 100' X 100' PLOTS

17. 100' X 100' PLOTS

18. 100' X 100' PLOTS

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127. 100' X 100' PLOTS

128. 100' X 100' PLOTS

129. 100' X 100' PLOTS

130. 100' X 100' PLOTS

131. 100' X 100' PLOTS

132. 100' X 100' PLOTS

133. 100' X 100' P

## GARDEN MEASUREMENTS

garden stations from-to	forward bearing	length of side	backward bearing
A - B			
B - C			
C - D			
D - E			
E - F			
F - G			
G - H			
H - I			
I - J			
J - K			
K - L			
L - M			
M - N			
N - O			
O - P			
P - Q			
Q - R			
R - S			
S - T			
T - U			
U - V			
V - W			
W - X			
X - Y			
Y - Z			
Z - A'			
A' - B'			
B' - C'			
C' - D'			
D' - E'			
E' - F'			
F' - G'			
G' - H'			
H' - I'			
I' - J'			
J' - K'			
K' - L'			
L' - M'			

## PLOT MEASUREMENTS

RE-SURVEY / CONTINUATION

**CONFIDENTIAL**  
**ANNUAL SURVEY OF AGRICULTURE**

**OPERATOR SURVEY****IDENTIFICATION**

Household Head	
Village	
T.A.	
District	
Enumerator	
Date	

Survey	3	(2)
A.D.D.		(3)
Project		(4)
Project Component		(6)
Project EA		(9)
ASA EA		(12)
Household		(14)

**CHECKING**

By	Date	Initial	Comments
Supervisor			
1st Office			
2nd Office			

## 1. OPERATOR NUMBER

Specify.....

--	--

(16)

## 2. DOES THE OPERATOR BELONG TO A FARMERS CLUB?

YES	1	(17)
NO	2	

## 3. DOES THE OPERATOR BELONG TO A FARMERS GROUP?

YES	1	(18)
NO	2	

## 4. DID THE OPERATOR USE ANY OXEN ON HIS FARM?

**CODES**

1	Own oxen
2	Hire
3	Combination
4	Not used
5	Other

- (a) For land preparation  (19)  
 (b) For transport  (20)  
 (c) For other tasks  (21)

## 5. DID THE OPERATOR FARM ANY PLOTS ON A SCHEME?

Specify.....

YES	1	(22)
NO	2	
OTHER	3	

## 6. DID THE OPERATOR FARM ANY LAND ON AN ESTATE?

YES, TENANT	1	(23)
YES, BORROWED	2	
NO	3	

## 7. (a) HAS THE OPERATOR USED ANY FERTILIZER ON HIS LAND THIS SEASON?

(b) IF SO HOW MUCH?  
Leave blank if no applicable

YES	1	(24)
NO	2	
CASH/CREDIT		
TYPE		
BAGS		
WT PER BAG		

**CODES****CASH/CREDIT**

1	Cash
2	Credit
3	Combination
4	Other

**TYPE**

1	20:20:0
2	Sulphate of ammonia
3	CAN
4	14:20:0
5	Urea
6	Mixture of two of above
7	Other/unknown

8. HOW MANY TIMES HAS THE OPERATOR ATTENDED AN AGRICULTURAL FIELD VISIT THIS SEASON?  
(99 = UNKNOWN)

No of times

--	--

(50)

9. HOW MANY TIMES HAS THE OPERATOR ATTENDED AN AGRICULTURAL DEMONSTRATION THIS SEASON?  
(99 = UNKNOWN)

No of times

--	--

(51)

## 10. HOW MANY TIMES HAS THE OPERATOR ATTENDED A MEETING ADDRESSED BY AN EXTENSION WORKER THIS SEASON? (99 = UNKNOWN)

No of times

--	--

(52)

11. HOW MANY TIMES HAS THE OPERATOR ATTENDED A COURSE AT A DAY TRAINING CENTRE THIS SEASON?  
(99 = UNKNOWN)

No of times

--	--

(53)

## 12. HAS THE OPERATOR ATTENDED A COURSE AT A RESIDENTIAL TRAINING CENTRE THIS YEAR?

No of times

--	--

(54)

## 13. HOW MANY TIMES HAS AN EXTENSION WORKER PAID A PERSONAL VISIT THIS SEASON? (99 = UNKNOWN)

No of times

--	--

(55)

## 14. HAS THE OPERATOR HEARD ANY OF THESE TOPICS DISCUSSED BY AN EXTENSION WORKER THIS SEASON?

No of times

--	--

(56)

**CODES**

1	YES
2	NO

(a) Credit

--	--

(57)

(b) Farmers group/club

--	--

(58)

(c) Livestock

--	--

(59)

--	--

(60)

--	--

(61)

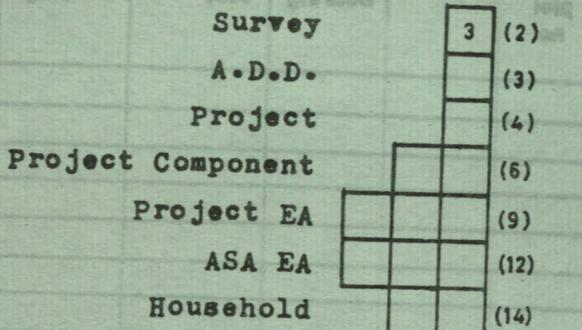
--	--

(62)

**CONFIDENTIAL**  
**ANNUAL SURVEY OF AGRICULTURE**

**OPERATOR SURVEY****IDENTIFICATION**

Household Head	
Village	
T.A.	
District	
Enumerator	
Date	

**CHECKING**

By	Date	Initial	Comments
Supervisor			
1st Office			
2nd Office			

**1. OPERATOR NUMBER**

--	--

Specify.....

**2. DOES THE OPERATOR BELONG TO A FARMERS CLUB?**

YES	1
NO	2

**3. DOES THE OPERATOR BELONG TO A FARMERS GROUP?**

YES	1
NO	2

**4. DID THE OPERATOR USE ANY OXEN ON HIS FARM?****CODES**

1	Own oxen
2	Hire
3	Combination
4	Not used
5	Other

(a) For land preparation

--

(b) For transport

--

(c) For other tasks

--

**5. DID THE OPERATOR FARM ANY PLOTS ON A SCHEME?**

Specify.....

YES	1
NO	2
OTHER	3

**6. DID THE OPERATOR FARM ANY LAND ON AN ESTATE?**

Specify estate.....

YES, TENANT	1
YES, BORROWED	2
NO	3
OTHER	4

**7. (a) HAS THE OPERATOR USED ANY FERTILIZER ON HIS LAND THIS SEASON?**

YES	1
NO	2

(24)

**(b) IF SO HOW MUCH?**  
Leave blank if no applicable

CASH/CREDIT	TYPE	BAGS	WT PER BAG

(32)

(40)

(48)

**CODES  
CASH/CREDIT**

1	Cash
2	Credit
3	Combination
4	Other

**TYPE**

1	20:20:0
2	Sulphate of ammonia
3	CAN
4	14:20:0
5	Urea
6	Mixture of two of above
7	Other/unknown

(50)

**8. HOW MANY TIMES HAS THE OPERATOR ATTENDED AN AGRICULTURAL FIELD VISIT THIS SEASON?**

No of times

--	--

(51)

**9. HOW MANY TIMES HAS THE OPERATOR ATTENDED AN AGRICULTURAL DEMONSTRATION THIS SEASON?**

No of times

--	--

(52)

**10. HOW MANY TIMES HAS THE OPERATOR ATTENDED A MEETING ADDRESSED BY AN EXTENSION WORKER THIS SEASON?**

No of times

--	--

(53)

**11. HOW MANY TIMES HAS THE OPERATOR ATTENDED A COURSE AT A DAY TRAINING CENTRE THIS SEASON?**

No of times

--	--

(54)

**12. HAS THE OPERATOR ATTENDED A COURSE AT A RESIDENTIAL TRAINING CENTRE THIS YEAR?**

No of times

--	--

(55)

**13. HOW MANY TIMES HAS AN EXTENSION WORKER PAID A PERSONAL VISIT THIS SEASON?** (99 = UNKNOWN)

No of times

--	--

(56)

**14. HAS THE OPERATOR HEARD ANY OF THESE TOPICS DISCUSSED BY AN EXTENSION WORKER THIS SEASON?**

No of times

--	--

(57)

**CODES**

1	YES
2	NO

(a) Credit

--	--

(58)

(b) Farmers group/club

--	--

(59)

(c) Livestock

--	--

(60)

(61)

(62)

15. FOR QUESTION 8 TO 13 WHICH OF THESE TOPICS DID THE OPERATOR HEAR BEING DISCUSSED BY AN EXTENSION WORKER? (STATE FOR WHICH CROPS)

		TOPIC							
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	
CODES	CROP	1 = YES 9 = NO/NOT APPLICABLE	2 = YES 9 = NO	3 = YES 9 = NO	4 = YES 9 = NO	5 = YES 9 = NO	6 = YES 9 = NO	7 = YES 9 = NO	
		ANY TOPIC HEARD DISCUSSED	LAND PREPARA-TION/RIDGING	EARLY PLANTING/WEEDING	USE OF IMPROVED SEED	SPACING BETWEEN RIDGES & PLANTS	FERTILIZER MANURE/SULPHUR DUST	PEST/DISEASE CONTROL	
	MAIZE								(69)
	G'NUTS								(76)
	PROJECT CROP 1								(83)
	PROJECT CROP 2								(90)
		ANY TOPIC HEARD DISCUSSED	LAND PREPARA-TION/RIDGING	EARLY PLANTING/EARLY RIDGING	GRADING	SPACING/THINNING	SPRAYING	UPROOTING/BURNING	
	COTTON								(97)
		ANY TOPIC HEARD DISCUSSED	LAND PREPARA-TION/RIDGING	PLANTING/EARLY TRANSPLANT-ING	DE-SUCK-ERING TOPPING & PRIMING	SPACING BETWEEN RIDGES & PLANTS	APPLICA-TION OF FERTILIZER & MANURE	CURING	
	TOBACCO								(104)
		ANY TOPIC HEARD DISCUSSED	LAND PREPARA-TION/LEVEL-LING	METHOD OF SOWING	USE OF IMPROVED SEED	SPACING BETWEEN PLANTS & ROWS	APPLICA-TION OF FERTILIZER & MANURE	PEST/DISEASE CONTROL	
	RICE								(111)

If the operator replies 'YES' to a topic enter the topic code.

If the operator replies 'NO' to a topic enter code 9.

If the operator replies 'NO' to all topics for a crop or if the crop is 'NOT APPLICABLE' enter code 9 under column (a). Otherwise enter code 1.