THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

CENTRAL STATISTICAL AUTHORITY

AGRICULTURAL SAMPLE SURVEY
1995/96 (1988 E.C.)

VOLUME I

REPORT ON

AREA AND PRODUCTION FOR MAJOR CROPS

(PRIVATE PEASANT HOLDINGS, MEHER SEASON)

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ABBREVIATIONS

CSA	-	CENTRAL STATISTICAL AUTHORITY
CV	-	COEFFICIENT OF VARIATION
EC	-	ETHIOPIAN CALENDAR
EA	-	ENUMERATION AREA
GDP	-	GROSS DOMESTIC PRODUCT
HA	-	HECTARE
NS	-	NOT STATED
PCs	-	PERSONAL COMPUTERS
PSUs	-	PRIMARY SAMPLING UNITS
QT	-	QUINTAL
SE	-	STANDARD ERROR
SNNPR	-	SOUTHERN NATION, NATIONALITIES PEOPLES' REGION

REPORT ON

AREA AND PRODUCTION OF MAJOR CROPS

1. INTRODUCTION

Ethiopia's economy is predominantly agrarian and the majority of the population in the country is engaged in agriculture. Accordingly, it contributes a considerable portion to the Gross Domestic Product (GDP). The collection of reliable, comprehensive and timely statistical information on agriculture is therefore very essential for planning purposes and formulation of agricultural policy.

The Central Statistical Authority (CSA) has been conducting Agricultural Sample Surveys on annual basis since 1980/81 (1973 E.C.) to meet some of the statistical data needs of planners and policy makers. The survey was interrupted in 1992/93(1985 E.C.) and 1993/94(1986 E.C.) because during these two years the CSA was fully engaged in undertaking the preparatory activities for the 1994 Population and Housing Census. However, after undertaking the 1994 Population and Housing Census, the undertaking of annual agricultural survey was resumed in 1994/95 (1987 E.C.) and also conducted for the year 1995/96 (1988 E.C.).

This volume presents the objectives of the 1995/96(1988 E.C.) annual survey; coverage and content of the survey; sample design; field organization; training of field staff ; method of data collection; and survey results on area, production and yield of major crops. Moreover, it presents the appendices that comprise survey questionnaires; number of sampled EAs, number of EAs that are actually covered and not covered in the survey; number of households that has been planned to be covered and those actually covered in the survey for the purpose of area and production of major crops, agricultural

practices,...etc.; number of fields measured and crop cuttings conducted; estimation procedure; standard errors and coefficient of variations for area and production estimates of major crops for the year 1995/96(1988 E.C.) for the country, regions and reporting levels (i.e. group of zones or regions).

2. OBJECTIVES OF THE SURVEY.

The general objective of the agricultural sample survey was to collect basic quantitative information on the nation's agriculture that are considered essential for development planning and socio-economic policy formulation.

In particular, the objectives of the survey were to estimate the total cultivated land; total production and yield of major crops per hectare; crop land uses (temporary and permanent); quantity and cost of agricultural inputs by type; number of livestock and poultry by type, purpose, sex and age; number of beehives and honey production in the private peasant holdings for the nation, regions and group of zones.

3. COVERAGE AND CONTENT.

The 1995/96 (1988 E.C.) annual agricultural sample survey was designed to cover sedentary rural agricultural population in all regions of the country. Urban and nomadic areas were not included in the survey. Accordingly, a total of 54 zones and 367 weredas were covered by the survey. The areal coverage of the survey is given in *Table a.*

Table a. AREAL COVERAGE OF THE 1995/96 AGRICULTURAL SAMPLE SURVEY

REGION	NUMBER OF ZONES			NUMBER OF WEREDAS	
	TOTAL	COVERED BY THE SURVEY	NOT COVERED BY THE SURVEY	PLANNED TO BE COVERED BY THE SURVEY	COVERED BY THE SURVEY
TIGRAY[1]	5	4	1	35	34
AFAR[2]	5	2	3	6	4
AMHARA	10	10	-	96	95
OROMIYA	12	12	-	148	144
SOMALIE[3]	9	3	6	6	5
BENSHANGUL-GUMEZ	3	2	1	6	5
S.N.N.P.R.	16	16	-	72	69
GAMBELA	1	1	-	5	4
HARARI	1	1	-	1	1
A. ABABA[4]	6	2	4	5	5
DIRE DAWA	1	1	-	1	1
TOTAL	69	54	15	381	367

Note

1 - In Tigray Region, four out of five zones have rural settled population. In the remaining one zone the entire population is urban residents.

2 - Afar region has a total of five zones, but only two zones have significant sedentary rural population.

3 - Somalie region has a total of nine zones, however only three zones have significant sedentary rural population.

4 - Addis Ababa has a total of six zones, however, only two zones have rural settled population. In the remaining four zones the entire population is urban residents.

S.N.N.P.R = Southern Nations and Nationalities Peoples' Region

Moreover, for the survey a total of 620 Enumeration Areas (1.1% of the total agricultural EAs) were selected to be covered in all regions. Nevertheless, 8 of them were closed due to various reasons and the survey succeeded to cover only 612 Enumeration Areas(EAs). For details see ***Appendix II.*** Furthermore, from each of the selected EAs a sample of 25 agricultural households were selected to represent the agricultural population of the sampled EA.

From these households, information on area under crops, Meher and Belg season production of major crops (temporary or annual), cropland utilisation, agricultural practices, crop damage, quantity and price of agricultural inputs used, number of livestock and poultry by type, purpose, age and sex, number of beehives by type, honey yield, milk yield and milk for butter were collected. In addition, it was attempted for the second time to collect information on the total number of trees and number of yielding trees during the survey year. For details regarding area, production, practices, industrial inputs, cropland use and number of permanent trees refer to survey questionnaires in ***Appendix I.***

It should be noted here that of the total 25 agricultural households covered in the selected EAs, the data collection on crop cutting was administered only on the last 15 households starting from the 11th selected household. Thus, a total of 14,800 agricultural households were covered for these exercises. In addition, area measurements of 73,309 fields in 41,585 parcels with different crops belonging to the 25 households were done for the meher season and 22,075 crop-cutting exercises on major temporary crops in sub-sample of the fields were conducted. For details refer to ***Appendix III and IV.***

This report, which is ***volume I*** of the 1995/96 annual agricultural sample survey

consists of results on area, production and yield of major crops per hectare. The remaining information collected in the survey will be published in subsequent volume.

4. CONCEPTS AND DEFINITIONS.

In order to standardize the data the same concepts and definitions should be applied during data collection. Hence, some of the concepts and definitions used in the survey are given below.

Enumeration Area (EA): An Enumeration Area in rural parts of the country is a locality that is less than or equal to a farmer's association area and usually consists of 150 - 200 households.

Holder: A holder is a person who exercises management control over the operations of the agricultural holding and takes the major decision regarding the utilization of the available resources. He has technical and economic responsibility for the holding. He may operate the holding directly as an owner or as a manager. Under conditions of traditional agricultural holding the holder may be regarded as the person, who with or without the help of other, operates land or raises livestock in his own right, i.e. the person who decides on what, when, where and how to grow crops or raise livestock and has the right to determine the utilization of the products.

Holding: a holding is all the land and/or livestock kept which is used wholly or partly for agricultural production and is operated as one technical unit by one person alone, or with others without regard to title, legal form, size or location.

Household: A household may be either;

a) a one person household, that is a person who makes provision for his own food or other essentials for living without combining with any other person to form part of a multi person household or

b) a multi person household, that is, a group of two or more persons who live together and make common provision for food or other essentials for living. The persons in the group may pool their incomes and have a common budget to greater or lesser extent. They may be related or unrelated persons, or a combination of both. These persons are taken as members of the household.

Agricultural household: A household is considered an agricultural household when at least one member of the household is engaged in growing crops and/or breeding and raising livestock in private or in partnership with others.

Parcel: A parcel of holding is any piece of land entirely surrounded by land, water, road, forest, ...etc. which is not part of the holding. It may consist of one or more cadastral units, plots or fields adjacent to each other.

Field: A field is defined as any plot of land which is a parcel or part of a parcel under the same crop.

Meher(Main) Season Crop: Any crop harvested from Meskerem (September) to Yekatit (February) is considered as meher season crop.

5. SAMPLE DESIGN.

A two stage stratified sample design was used for the 1995/96 (1988 E.C.) Annual Agricultural Sample Survey. In three regions, namely in Amhara, Oromiya and Southern Nations and Nationalities Peoples' Region, group of contiguous zones were treated as strata/reporting levels of the survey results. In the remaining regions, the reporting levels were the regions themselves. The primary sampling units (PSUs) in all strata were Enumeration Areas (EAs). Agricultural households were the ultimate sampling units. The survey questionnaires were administered to all agricultural holders in the sampled agricultural households.

A fixed number of sample EAs was determined for each stratum/ reporting level based on precision of estimates, household size of the stratum and cost considerations. The overall sample number of EAs in a stratum was proportionately allocated to zones/special weredas within the stratum to their household size. From within each Zone/Special Wereda sample EAs were selected with probability proportional to size, size being the total number of households of EAs as obtained from the 1994 census map work. From each sample EA, 25 agricultural households were sampled systematically without replacement from a fresh list of agricultural households.

All information were collected from these households except for crop-cutting exercise, for which data were collected only from the last 15 agricultural households starting from the 11th selected agricultural households. Moreover, holders within these households were enumerated and the required data were collected from these holders.

Estimation procedures of totals and ratios of agricultural variables and the measure of precision of area and production are given in ***Appendix V and VI.***

6. FIELD ORGANIZATION.

CSA branch statistical office heads, field supervisors and enumerators were fully involved in the survey. Hence, 15 statistical branch office heads, about 140 field supervisors, each supervising 5 enumerators in most cases and about 651 enumerators (including reserve enumerators) stationed in each of the selected EAs, experts from head office, other support staff and about 62 drivers were involved in the operation.

For all enumerators the necessary survey equipment, such as compasses, protractors, ruler, measuring tapes, balance scales, poles, ropes, sample bags,...etc. were made available and to facilitate the field work about 62 vehicles were put on operation.

7. TRAINING OF FIELD STAFF.

At the outset all relevant materials, like equipment have been procured, questionnaires and instruction manuals were prepared and printed. Then the training program for the field staff was carried out in two stages. In the first stage, about 90 trainees, i.e. experts from the head office, branch statistical office heads and some of the field supervisors were given training for one week at the head office. Some of those trained in the first stage conducted similar training for about 140 field supervisors and about 651 enumerators for 10 days in all the 15 branch offices all over the country. During the training, the field staff were given detailed class room instruction on the objective and uses of the

survey, concept and definitions of terms used, method of area measurement, method of crop cutting, interviewing procedures,... etc. The training sessions included thorough field practices with regard to data collection.

8. METHOD OF DATA COLLECTION.

Survey data were collected on questionnaires both by subjective and objective methods. Information on agricultural practices(application of fertilizer, pesticide, use of improved seed and irrigation), livestock and poultry information were collected subjectively by interviewing the holders in the sampled households.

In addition, the objective measurements, particularly for area measurements, were carried out for the 25 selected households from each sampled EA in which all crop areas were physically measured using compasses and measuring tapes. On the other hand, all fields under temporary crops of each holder in the last 15 sampled households were classified by type of crop and from each type a field was randomly selected for crop cutting. Then, a sixteen meter square plot was demarcated in the selected field in which the crop in the plot was harvested. The harvested crop was threshed and carried in bag with identification information like name of the crop, holding number, parcel and field number. The crop in the bag was weighed immediately after threshing and weighed again after two weeks of drying. The weights were recorded in the respective questionnaire.

9. EDITING, CODING AND VERIFICATION.

The editing and coding instruction manuals were prepared and printed. Then

intensive training was given to the editors for three days. About 20 editors-coders were involved to accomplish the editing and coding tasks. In due course, two professional staffs were assigned to answer questions, clear doubts,...etc. so as to facilitate the editing and coding activity. In addition, the edited and coded data were checked by about 10 supervisors/verifiers. The verification was done on 100% basis.

10. DATA ENTRY, CLEANING AND PROCESSING.

About 40 data encoders have participated in the data entry activity on shift basis(20 in the morning and 20 in the afternoon). Unlike the previous years, the data was entered in personal computers using IMPS (Integrated Microcomputer Processing System) Software. Then, the data entered was checked and cleaned by four regular staffs. Finally, the data processing activity was also done by personal computers(PCs) to produce results which were indicated in the tabulation plan and this operation was performed by four programmers.

11. SUMMARY OF THE SURVEY RESULTS ON AREA AND PRODUCTION.

The result of area, production and yield for major crops (temporary or annual) are presented in this publication. Consequently, the *total area* under major temporary crops (See *Table b*) is estimated to be about 7.95 million hectares at national level for the meher season of 1995/96 (1988 E.C.). When comparing this result with last year survey result, a 14 % increase is noticed. The possible reasons for this increase are farmers might have ploughed more fields which were in fallow and/or other land uses during the previous year due to favorable weather condition and inclusion of areas and crops which were not covered by the previous survey.

Out of the total area *cereals* account for about 6.65 million hectares (83.70%) while *pulses* and *other crops* like *neug, linseed, rapeseed, ground nuts, sunflower, sesame* and *fenugreek* shared 0.90 million hectares (11.38%) and 0.39 million hectares (4.93%) respectively.

When one looks at the specific crop the largest area, i.e. about 2.10 million hectares, is reported for *teff* followed by *maize* and *sorghum* in that order. For details refer to Table 3.

Table b. **Summary of Area, Production and Yield of Major Crops for the year 1995/96 (1988 E.C.)**

TYPE OF CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD(QT/HA)
	MILLION HA	%	MILLION QT.	%	
CEREALS	6.65	83.70	82.70	89.12	12.43
PULSES	0.90	11.38	8.14	8.77	9.00
OTHER CROPS	0.39	4.93	1.95	2.10	4.99
TOTAL	7.95	100.00	92.79	100.00	11.67

Furthermore, the *total production* estimate at national level is about 92.79 million quintals, of which *cereals* account for 82.70 million quintals, *pulses* account for about 8.14 million quintals and *other crops* mentioned above totalled to 1.95 million quintals (See *Table b*).

Comparing this year's estimates of total production to that of last year's estimates, a 31.77% increase is observed. This is mainly attributed to a 14% increase in *area* and a 15% average increase (i.e. from 10.12 to 11.67 quintals per hectare) in the *yield* of all crops (See Table 1). The possible reasons for the rise of yield are considerable increase in application of fertilizer (Refer to *VOLUME III, REPORT ON AGRICULTURAL PRACTICES* of the same survey) and favorable weather condition of the 1995/96 (1988 E.C.) agricultural year.

The survey result also indicates that the yield of *cereals* is 12.43 quintals per hectare, the yield of *pulses* is 9 quintals per hectare and the yield of *other crops* mentioned above is 5 quintals per hectare. It is also shown in Table 3 that highest yield is reported for *maize*, which is 19.83 quintals per hectare and the smallest is for *sesame*, 3.56 quintals per hectare. As noted above, the average yield per hectare has increased substantially. Accordingly, the yields of *cereals*, *pulses* and *other crops* at national level have increased by 16.06%, 2.39% and 45.48% respectively compared to 1994/95. For details see Table 1.

NOTE

1. Some estimates in all reporting levels are excluded due to high coefficient of variations. Nevertheless, they are incorporated in the Total estimates. Hence, the sum of the specific estimates may not be equal to the Total estimates.
2. Users are also advised to use those Estimates with 30-50 % coefficient of variation(CV) cautiously.
3. Eventhough area is reported for some crops in some reporting levels, no production data is available Such cases are designated by Not Stated (NS) . On the other hand, in all tables " - " labeled for data not available totally.

Table 1. Estimates of 1995/96 and 1994/95 Area, Production and Yield of Major Crops for Private Peasant Holdings in Ethiopia (Meher Season)

CROP	TOTAL AREA ('000 HA)			TOTAL PRODUCTION ('000 QT)			YIELD (QT/HA)		
	1994/95 (1987 E.C)	1995/96 (1988 E.C)	% CHANGE	1994/95 (1987 E.C)	1995/96 (1988 E.C)	% CHANGE	1994/95 (1987 E.C)	1995/96 (1988 E.C)	% CHANGE
CEREALS	5746.01	6652.56	15.78	61542.00	82697.14	34.38	10.71	12.43	16.06
TEFF	1843.76	2097.40	13.76	12983.89	17523.75	34.97	7.04	8.35	18.61
BARLEY	879.17	825.54	-6.10	8476.85	8725.32	2.93	9.64	10.57	9.65
WHEAT	769.34	882.06	14.65	10239.14	10763.04	5.12	13.31	12.20	-8.34
MAIZE	1104.70	1280.68	15.93	16732.02	25392.92	51.76	15.15	19.83	30.89
SORGHUM	886.01	1252.41	41.35	11219.13	17226.52	53.55	12.66	13.75	8.61
MILLET	228.53	269.35	17.86	1530.51	2413.42	57.69	6.70	8.96	33.73
OATS	34.50	45.11	30.75	360.46	652.17	80.93	10.45	14.46	38.37
PULSES	878.48	904.39	2.95	7723.46	8141.44	5.41	8.79	9.00	2.39
HORSE BEANS	341.91	336.72	-1.52	3736.46	3593.67	-3.82	10.93	10.67	-2.38
FIELD PEAS	154.97	180.46	16.45	1432.93	1395.75	-2.59	9.25	7.73	-16.43
HARICOT BEANS	68.75	101.17	47.16	338.66	783.61	131.39	5.29	7.75	46.50
CHICK PEAS	175.05	144.97	-17.18	1224.96	1232.41	0.61	7.00	8.50	21.43
LENTILS	58.01	65.12	12.26	367.55	331.64	-9.77	6.34	5.09	-19.72
VETCH	79.79	75.95	-4.81	622.90	804.36	29.13	7.81	10.59	35.60
OTHERS	335.69	391.58	16.65	1152.53	1952.61	69.42	3.43	4.99	45.48
NEUG	197.12	223.33	13.30	443.01	859.49	94.01	2.25	3.85	71.11
LINSEED	110.92	112.72	1.62	535.52	568.38	6.14	4.83	5.04	4.35
RAPE SEED	14.83	14.19	-4.32	112.09	251.46	124.34	7.56	17.72	134.39
GROUND NUTS	-	13.26	-	-	142.31	-	-	10.73	-
SUNFLOWER	-	4.78	-	-	24.03	-	-	5.03	-
SESAME	-	9.39	-	-	33.42	-	-	3.56	-
FENUGREEK	12.81	13.90	8.51	61.91	73.51	18.74	4.83	5.29	9.52
ALL CROPS	6960.18	7948.53	14.20	70417.99	92791.19	31.77	10.12	11.67	15.39

Fig 1. Estimates of Area Under Major Crops for Private Peasant Holdings: National 1995/96 (1988 E.C.)

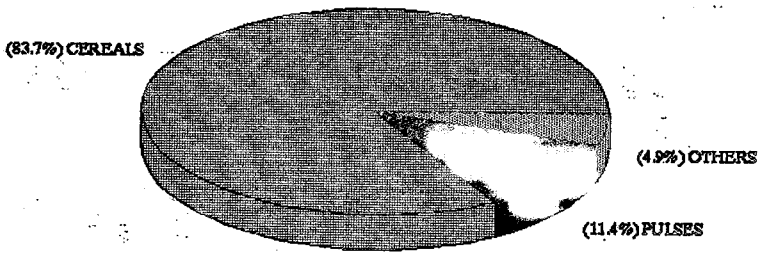


Fig 2. Estimates of Production for Major Crops for Private Peasant Holdings: National 1995/96 (1988 E.C.)

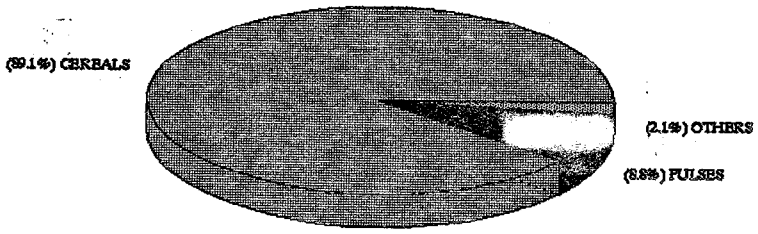


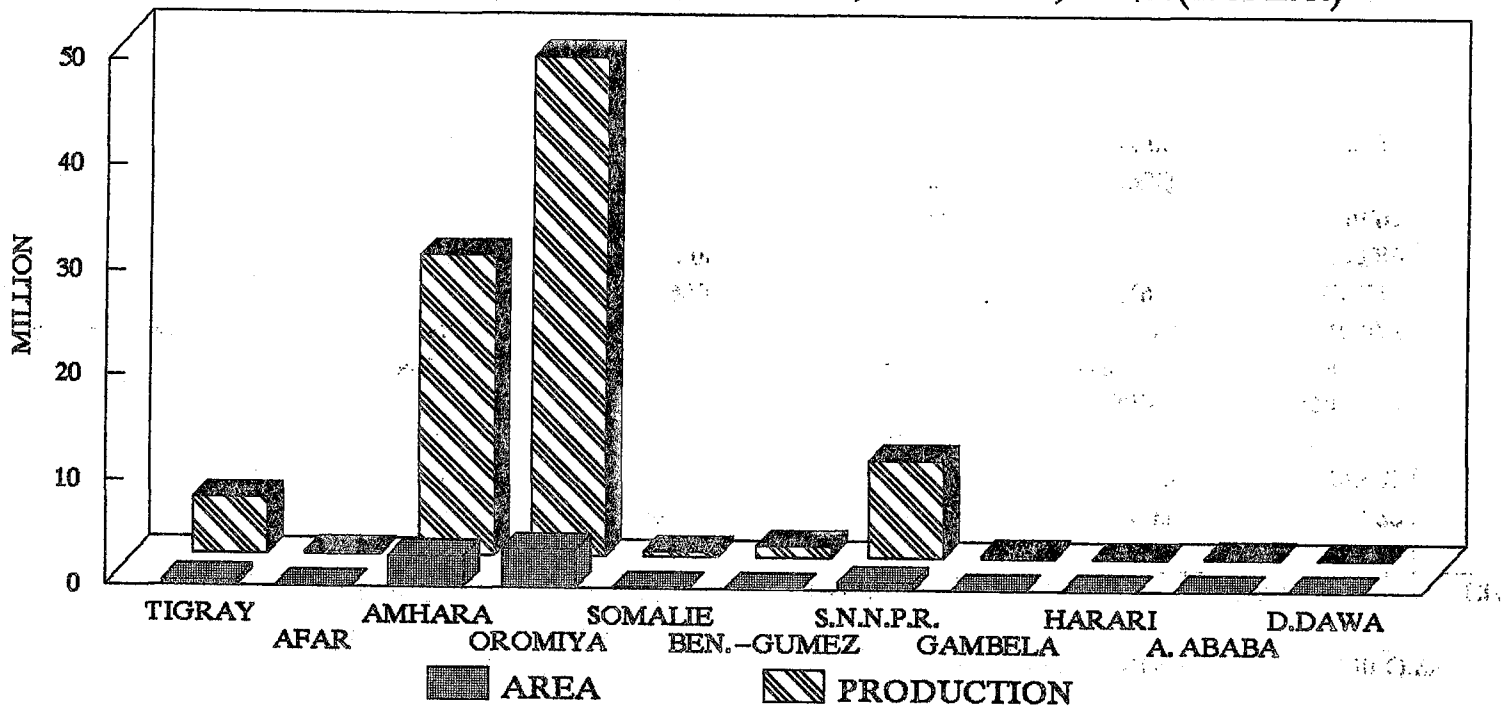
Table 2 Estimates of 1994/95 and 1995/96 area and Production of major crops for private Peasant Holdings in Ethiopia by Region (Meher Season)

REGION	TOTAL AREA ('000 HA)			TOTAL PRODUCTION('000 QT)		
	1994/95 (1987 E.C)	1995/96 (1988 E.C)	% CHANGE	1994/95 (1987 E.C)	1995/96 (1988 E.C)	% CHANGE
TIGRAY	506.04	481.43	−4.86	3035.33	5278.22	73.89
AFAR	16.55	24.34	47.07	146.55	193.23	31.85
AMHARA	2608.32	2933.08	12.45	23846.13	28612.93	19.99
OROMIYA	3138.26	3624.71	15.5	35436.51	47493.53	34.02
SOMALIE	NS	59.73	–	NS	424.83	–
BENSHANGUL−GUMEZ	60.42	95.86	58.66	641.32	1058.5	65.05
S.N.N.P.R.	599.23	697.6	16.42	6919.3	9265.15	33.9
GAMBELA	6.24	10.08	61.54	78.76	227.89	189.35
HARARI	5.29	4.41	−16.64	60.83	46.01	−24.36
ADDIS ABABA	10.31	9.91	−3.88	119.23	147.61	23.8
DIRE DAWA	9.52	7.39	−22.37	134.03	43.29	−67.7
TOTAL	6960.18	7948.54	14.2	70417.99	92791.19	31.77

NOTE: The negative percentage changes observed for area and production for some of the regions are to be used coutiously. These decline may or may not indicate the true trend of the area and production in these regions. However, this situation could be related to the relatively smaller sample size used in these regions, specially in Harari, Addis Ababa and Dire Dawa regions.

FIGURE 3

ESTIMATES OF AREA AND PRODUCTION OF MAJOR CROPS BY REGION
FOR PRIVATE PEASANT HOLDINGS, NATIONAL, 1995/96(1988 E.C.)



BEN.-GUMEZ = BENSHNGUL-GUMEZ

A.ABABA = ADDIS ABABA

D.DAWA = DIRE DAWA

Table 3. Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

NATIONAL

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	6,652.56	83.70	82,697.14	89.12	12.43
Teff	2,097.40	26.39	17,523.75	18.89	8.35
Barley	825.54	10.39	8,725.32	9.40	10.57
Wheat	882.06	11.10	10,763.04	11.60	12.20
Maize	1,280.68	16.11	25,392.92	27.37	19.83
Sorghum	1,252.41	15.76	17,226.52	18.56	13.75
Millet	269.35	3.39	2,413.42	2.60	8.96
Oats	45.11	0.57	652.17	0.70	14.46
Pulses	904.39	11.38	8,141.44	8.77	9.00
Horse Beans	336.72	4.24	3,593.67	3.87	10.67
Field Peas	180.46	2.27	1,395.75	1.50	7.73
Haricot Beans	101.17	1.27	783.61	0.84	7.75
Chick Peas	144.97	1.82	1,232.41	1.33	8.50
Lentils	65.12	0.82	331.64	0.36	5.09
Vetch	75.95	0.96	804.36	0.87	10.59
Others	391.58	4.93	1,952.61	2.10	4.99
Neug	223.33	2.81	859.49	0.93	3.85
Linseed	112.72	1.42	568.38	0.61	5.04
Rapeseed	14.19	0.18	**	**	**
Ground Nuts	13.26	0.17	**	**	**
Sunflower	4.78	0.06	**	**	**
Sesame	9.39	0.12	**	**	**
Fenugreek	13.90	0.17	73.51	0.08	5.29
All Crops	7,948.53	100.00	92,791.19	100.00	11.67

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 4. Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

TIGRAY

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	436.76	90.72	4,926.92	93.34	11.28
Teff	87.88	18.25	608.27	11.52	6.92
Barley	87.35	18.14	817.11	15.48	9.35
Wheat	84.55	17.56	846.53	16.04	10.01
Maize	45.05	9.36	679.63	12.88	15.09
Sorghum	96.14	19.97	1,729.68	32.77	17.99
Millet	35.78	7.43	245.70	4.65	6.87
Oats	-	-	-	-	-
Pulses	36.91	7.67	329.27	6.24	8.92
Horse Beans	11.36	2.36	163.61	3.10	14.40
Field Peas	3.80	0.79	29.06	0.55	7.65
Haricot Beans	-	-	-	-	-
Chick Peas	8.81	1.83	70.13	1.33	7.96
Lentils	6.28	1.30	30.33	0.57	4.83
Vetch	**	**	**	**	**
Others	7.76	1.61	22.03	0.42	2.84
Neug	**	**	**	**	**
Linseed	5.13	1.07	15.42	0.29	3.01
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	NS	-	-
Sesame	**	**	**	**	**
Fenugreek	**	**	**	**	**
All Crops	481.43	100.00	5,278.22	100.00	10.96

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 5. Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

AFAR

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	22.54	92.60	185.52	96.01	8.23
Teff	4.82	19.80	33.31	17.24	6.91
Barley	**	**	-	-	-
Wheat	**	**	**	**	**
Maize	4.50	18.49	36.36	18.82	8.08
Sorghum	13.16	54.07	115.64	59.85	8.79
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	1.71	7.03	7.65	3.96	4.47
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	**	**	-	-	-
Chick Peas	**	**	7.65	3.96	**
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	0.08	0.33	0.07	0.04	0.88
Neug	**	**	**	**	**
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	NS	-	-
Sesame	**	**	NS	-	-
Fenugreek	-	-	-	-	-
All Crops	24.34	100.00	193.23	100.00	7.94

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 6. Estimates of Area, Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

AMHARA

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	2,380.35	81.16	24,774.23	86.58	10.41
Teff	882.28	30.08	6,930.81	24.22	7.86
Barley	295.85	10.09	2,509.46	8.77	8.48
Wheat	259.46	8.85	2,314.02	8.09	8.92
Maize	289.69	9.88	5,667.29	19.81	19.56
Sorghum	471.89	16.09	5,678.86	19.85	12.03
Millet	173.19	5.90	1,599.82	5.59	9.24
Oats	7.99	0.27	73.97	0.26	9.26
Pulses	381.98	13.02	3,075.84	10.75	8.05
Horse Beans	129.33	4.41	1,276.66	4.46	9.87
Field Peas	74.82	2.55	505.93	1.77	6.76
Haricot Beans	26.57	0.91	124.80	0.44	4.70
Chick Peas	81.40	2.78	644.62	2.25	7.92
Lentils	32.25	1.10	184.52	0.64	5.72
Vetch	37.62	1.28	339.30	1.19	9.02
Others	170.76	5.82	762.86	2.67	4.47
Neug	111.60	3.80	460.27	1.61	4.12
Linseed	42.02	1.43	171.76	0.60	4.09
Rapeseed	3.75	0.13	**	**	**
Ground Nuts	-	-	-	-	-
Sunflower	3.55	0.12	**	**	**
Sesame	**	**	**	**	**
Fenugreek	4.82	0.16	25.35	0.09	5.26
All Crops	2,933.08	100.00	28,612.93	100.00	9.76

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 6.1 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

NORTH AND SOUTH GONDAR Zones

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	726.45	80.71	6,024.16	86.53	8.29
Teff	252.77	28.08	1,734.03	24.91	6.86
Barley	74.93	8.33	450.08	6.47	6.01
Wheat	40.08	4.45	277.01	3.98	6.91
Maize	70.07	7.79	795.73	11.43	11.36
Sorghum	213.35	23.70	2,102.73	30.20	9.86
Millet	75.02	8.34	663.14	9.53	8.84
Oats	**	**	**	**	**
Pulses	107.30	11.92	648.99	9.32	6.05
Horse Beans	31.76	3.53	240.87	3.46	7.58
Field Peas	19.87	2.21	69.02	0.99	3.47
Haricot Beans	**	**	**	**	**
Chick Peas	31.17	3.46	233.38	3.35	7.49
Lentils	**	**	**	**	**
Vetch	8.63	0.96	63.72	0.92	7.38
Others	66.28	7.36	288.57	4.15	4.35
Neug	51.24	5.69	233.12	3.35	4.55
Linseed	8.03	0.89	**	**	**
Rapeseed	**	**	**	**	**
Ground Nuts	-	-	-	-	-
Sunflower	1.18	0.13	3.22	0.05	2.73
Sesame	**	**	**	**	**
Fenugreek	**	**	**	**	**
All Crops	900.03	100.00	6,961.72	100.00	7.73

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 6.2 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

EAST, WEST GOJAM AND AGEWAWI Zones

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	858.69	82.15	10,597.93	88.19	12.34
Teff	399.40	38.21	3,365.91	28.01	8.43
Barley	84.04	8.04	813.20	6.77	9.68
Wheat	66.17	6.33	699.65	5.82	10.57
Maize	171.32	16.39	4,219.42	35.11	24.63
Sorghum	41.88	4.01	602.40	5.01	14.38
Millet	94.90	9.08	894.63	7.44	9.43
Oats	**	**	**	**	**
Pulses	108.38	10.37	1,055.00	8.78	9.73
Horse Beans	34.86	3.33	384.04	3.20	11.02
Field Peas	23.66	2.26	218.47	1.82	9.23
Haricot Beans	12.05	1.15	95.26	0.79	7.91
Chick Peas	19.18	1.83	171.56	1.43	8.94
Lentils	**	**	**	**	**
Vetch	18.32	1.75	184.50	1.54	10.07
Others	78.22	7.48	364.16	3.03	4.66
Neug	55.83	5.34	213.02	1.77	3.82
Linseed	17.20	1.65	68.53	0.57	3.98
Rapeseed	3.61	0.35	**	**	**
Ground Nuts	-	-	-	-	-
Sunflower	**	**	**	**	**
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	1,045.30	100.00	12,017.10	100.00	11.50

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 6.3 Estimates of Area, Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

NORTH WOLO AND WAGHAMRA Zones

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	219.86	81.05	1,800.86	84.46	8.19
Teff	73.84	27.22	521.63	24.46	7.06
Barley	56.32	20.76	394.31	18.49	7.00
Wheat	36.89	13.60	256.32	12.02	6.95
Maize	5.71	2.10	37.94	1.78	6.64
Sorghum	44.70	16.48	568.52	26.66	12.72
Millet	**	**	**	**	**
Oats	**	**	**	**	**
Pulses	43.37	15.99	312.69	14.66	7.21
Horse Beans	12.91	4.76	116.50	5.46	9.02
Field Peas	14.36	5.29	91.77	4.30	6.39
Haricot Beans	**	**	**	**	**
Chick Peas	8.22	3.03	47.16	2.21	5.74
Lentils	5.53	2.04	33.72	1.58	6.10
Vetch	**	**	**	**	**
Others	8.04	2.96	18.77	0.88	2.33
Neug	0.51	0.19	**	**	**
Linseed	4.91	1.81	12.77	0.60	2.60
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	**	**	**
Sesame	**	**	NS	-	-
Fenugreek	**	**	**	**	**
All Crops	271.27	100.00	2,132.31	100.00	7.86

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 6.4 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

SOUTH WOLO, OROMIYA AND NORTH SHEWA Zones

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	575.35	80.30	6,351.28	84.66	11.04
Teff	156.28	21.81	1,309.25	17.45	8.38
Barley	80.57	11.25	851.87	11.36	10.57
Wheat	116.31	16.23	1,081.04	14.41	9.29
Maize	42.59	5.94	614.20	8.19	14.42
Sorghum	171.96	24.00	2,405.21	32.06	13.99
Millet	2.64	0.37	**	**	**
Oats	**	**	**	**	**
Pulses	122.92	17.16	1,059.16	14.12	8.62
Horse Beans	49.81	6.95	535.25	7.13	10.75
Field Peas	16.93	2.36	126.68	1.69	7.48
Haricot Beans	1.89	0.26	**	**	**
Chick Peas	22.84	3.19	192.53	2.57	8.43
Lentils	22.77	3.18	128.45	1.71	5.64
Vetch	8.69	1.21	68.08	0.91	7.83
Others	18.22	2.54	91.36	1.22	5.01
Neug	**	**	**	**	**
Linseed	11.88	1.66	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	NS	-	-
Sesame	**	**	**	**	**
Fenugreek	**	**	**	**	**
All Crops	716.49	100.00	7,501.80	100.00	10.47

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 7. Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

OROMIYA

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	3,034.03	83.70	42,515.42	89.52	14.01
Teff	941.16	25.97	8,377.51	17.64	8.90
Barley	384.67	10.61	4,770.66	10.04	12.40
Wheat	469.99	12.97	6,385.48	13.44	13.59
Maize	699.62	19.30	14,660.28	30.87	20.95
Sorghum	452.11	12.47	7,319.63	15.41	16.19
Millet	49.68	1.37	425.24	0.90	8.56
Oats	36.80	1.02	576.62	1.21	15.67
Pulses	390.44	10.77	3,856.42	8.12	9.88
Horse Beans	154.56	4.26	1,682.83	3.54	10.89
Field Peas	79.19	2.18	668.35	1.41	8.44
Haricot Beans	52.62	1.45	497.63	1.05	9.46
Chick Peas	47.97	1.32	480.52	1.01	10.02
Lentils	25.26	0.70	109.08	0.23	4.32
Vetch	30.85	0.85	418.01	0.88	13.55
Others	200.23	5.52	1,121.69	2.36	5.60
Neug	103.08	2.84	370.32	0.78	3.59
Linseed	65.06	1.79	380.72	0.80	5.85
Rapeseed	**	**	**	**	**
Ground Nuts	**	**	**	**	**
Sunflower	**	**	**	**	**
Sesame	1.43	0.04	**	**	**
Fenugreek	8.84	0.24	47.23	0.10	5.34
All Crops	3,624.71	100.00	47,493.53	100.00	13.10

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 7.1 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

EAST AND WEST WELEGA Zones

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	510.67	83.91	6,547.24	93.15	12.82
Teff	163.16	26.81	1,170.92	16.66	7.18
Barley	28.44	4.67	**	**	**
Wheat	28.07	4.61	266.51	3.79	9.49
Maize	177.15	29.11	3,633.69	51.70	20.51
Sorghum	71.51	11.75	901.59	12.83	12.61
Millet	41.53	6.82	299.87	4.27	7.22
Oats	**	**	**	**	**
Pulses	39.33	6.46	290.28	4.13	7.38
Horse Beans	20.30	3.34	180.85	2.57	8.91
Field Peas	10.65	1.75	60.88	0.87	5.72
Haricot Beans	7.12	1.17	43.07	0.61	6.05
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	**	**	**	**	**
Others	58.59	9.63	191.27	2.72	3.26
Neug	52.85	8.68	167.96	2.39	3.18
Linseed	**	**	**	**	**
Rapeseed	**	0.06	**	**	**
Ground Nuts	**	**	-	-	-
Sunflower	-	-	-	-	-
Sesame	**	**	**	**	**
Fenugreek	0.34	0.06	**	**	**
All Crops	608.58	100.00	7,028.79	100.00	11.55

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 7.2 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

ILUBABOR AND JIMA Zones

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	432.58	91.90	6,516.00	94.78	15.06
Teff	148.40	31.53	1,241.63	18.06	8.37
Barley	17.55	3.73	179.73	2.61	10.24
Wheat	11.89	2.53	159.44	2.32	13.41
Maize	168.90	35.88	3,599.41	52.36	21.31
Sorghum	77.60	16.49	1,207.14	17.56	15.56
Millet	7.39	1.57	**	**	**
Oats	**	**	**	**	**
Pulses	32.15	6.83	336.86	4.90	10.48
Horse Beans	18.12	3.85	205.04	2.98	11.32
Field Peas	6.60	1.40	49.23	0.72	7.46
Haricot Beans	5.30	1.13	**	**	**
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	**	**	**	**	**
Others	5.99	1.27	21.68	0.32	3.62
Neug	**	**	9.12	0.13	**
Linseed	**	**	11.42	0.17	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	**	**	**
Sesame	**	**	**	**	**
Fenugreek	**	**	**	**	**
All Crops	470.71	100.00	6,874.55	100.00	14.60

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 7.3 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

NORTH AND WEST SHEWA Zones

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	752.59	80.10	9,012.92	85.61	11.98
Teff	307.63	32.74	3,127.65	29.71	10.17
Barley	163.56	17.41	1,757.63	16.69	10.75
Wheat	139.59	14.86	1,716.57	16.30	12.30
Maize	43.89	4.67	891.57	8.47	20.31
Sorghum	95.89	10.21	1,500.47	14.25	15.65
Millet	**	**	NS	-	-
Oats	1.87	0.20	**	**	**
Pulses	126.91	13.51	1,189.48	11.30	9.37
Horse Beans	52.60	5.60	497.24	4.72	9.45
Field Peas	20.29	2.16	187.41	1.78	9.24
Haricot Beans	**	**	NS	-	-
Chick Peas	25.90	2.76	231.45	2.20	8.94
Lentils	10.90	1.16	37.90	0.36	3.48
Vetch	17.18	1.83	235.48	2.24	13.71
Others	60.13	6.40	325.56	3.09	5.41
Neug	38.67	4.12	161.46	1.53	4.18
Linseed	14.80	1.58	73.25	0.70	4.95
Rapeseed	**	**	**	**	**
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	939.62	100.00	10,527.96	100.00	11.20

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 7.4 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

EAST SHEWA, ARSI, BALE AND BORENA Zones

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	1,069.61	81.96	15,643.32	87.88	14.63
Teff	307.05	23.53	2,656.72	14.92	8.65
Barley	166.20	12.74	2,444.58	13.73	14.71
Wheat	285.77	21.90	4,191.10	23.54	14.67
Maize	220.68	16.91	4,801.96	26.98	21.76
Sorghum	57.12	4.38	1,009.42	5.67	17.67
Millet	**	**	**	**	**
Oats	32.45	2.49	534.35	3.00	16.47
Pulses	171.12	13.11	1,705.17	9.58	9.96
Horse Beans	55.67	4.27	655.07	3.68	11.77
Field Peas	40.57	3.11	360.12	2.02	8.88
Haricot Beans	29.03	2.22	214.63	1.21	7.39
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	**	**	**	**	**
Others	64.22	4.92	452.90	2.54	7.05
Neug	**	**	**	**	**
Linseed	43.40	3.33	280.54	1.58	6.46
Rapeseed	**	**	**	**	**
Ground Nuts	-	-	-	-	-
Sunflower	**	**	**	**	**
Sesame	**	**	**	**	**
Fenugreek	5.67	0.43	31.05	0.17	5.48
All Crops	1,304.96	100.00	17,801.40	100.00	13.64

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 7.5 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

EAST AND WEST HARERGE Zones

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	268.59	89.28	4,795.93	91.16	17.86
Teff	14.92	4.96	180.60	3.43	12.10
Barley	8.92	2.97	119.71	2.28	13.42
Wheat	4.67	1.55	51.87	0.99	11.11
Maize	89.00	29.58	1,733.66	32.95	19.48
Sorghum	149.99	49.86	2,701.01	51.34	18.01
Millet	**	**	**	**	**
Oats	**	**	8.13	0.15	**
Pulses	20.94	6.96	334.62	6.36	15.98
Horse Beans	7.86	2.61	144.63	2.75	18.40
Field Peas	1.08	0.36	10.71	0.20	9.92
Haricot Beans	11.14	3.70	**	**	**
Chick Peas	0.32	0.11	**	**	**
Lentils	**	**	2.81	0.05	**
Vetch	-	-	-	-	-
Others	11.30	3.76	130.28	2.48	11.53
Neug	-	-	-	-	-
Linseed	0.30	0.10	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	**	**	**	**	**
Sunflower	-	**	-	-	-
Sesame	**	**	**	**	**
Fenugreek	0.73	0.24	**	**	**
All Crops	300.83	100.00	5,260.83	100.00	17.49

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 8. Estimates of Area, Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

SOMALIE

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	59.31	99.30	423.32	99.64	7.14
Teff	**	**	**	**	**
Barley	4.23	7.08	17.28	4.07	4.09
Wheat	5.22	8.74	44.98	10.59	8.62
Maize	20.55	34.40	197.11	46.40	9.59
Sorghum	29.15	48.80	163.22	38.42	5.60
Millet	-	-	-	-	-
Oats	**	**	**	**	**
Pulses	0.32	0.54	1.45	0.34	4.53
Horse Beans	-	-	-	-	-
Field Peas	**	**	**	**	**
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	NS	-	-
Lentils	**	**	NS	-	-
Vetch	-	-	-	-	-
Others	0.11	0.18	0.06	0.01	0.55
Neug	-	-	-	-	-
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	NS	-	-
All Crops	59.73	100.00	424.83	100.00	7.11

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 9. Estimates of Area, Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

BENSHANGUL-GUMEZ

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	81.28	84.79	983.94	92.96	12.11
Teff	16.15	16.85	97.03	9.17	6.01
Barley	**	**	**	**	**
Wheat	**	**	**	**	**
Maize	20.55	21.44	400.01	37.79	19.47
Sorghum	35.07	36.58	388.84	36.74	11.09
Millet	7.15	7.46	78.69	7.43	11.01
Oats	**	**	**	**	**
Pulses	3.77	3.93	37.85	3.58	10.04
Horse Beans	**	**	**	**	**
Field Peas	**	**	**	**	**
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	-	-	-	-	-
Others	10.81	11.28	36.71	3.47	3.40
Neug	**	**	26.31	2.49	**
Linseed	0.12	0.13	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	**	**	9.14	0.86	**
Sunflower	-	-	-	-	-
Sesame	**	**	**	**	**
Fenugreek	**	**	NS	-	-
All Crops	95.86	100.00	1,058.50	100.00	11.04

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 10. Estimates of Area, Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

S.N.N.P.R

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	609.74	87.41	8,460.06	91.31	13.87
Teff	160.44	23.00	1,413.67	15.26	8.81
Barley	52.32	7.50	601.67	6.49	11.50
Wheat	58.26	8.35	1,105.68	11.93	18.98
Maize	194.65	27.90	3,596.53	38.82	18.48
Sorghum	140.37	20.12	1,677.62	18.11	11.95
Millet	3.51	0.50	**	**	**
Oats	**	**	**	**	**
Pulses	87.21	12.50	804.86	8.69	9.23
Horse Beans	40.60	5.82	459.41	4.96	11.32
Field Peas	22.26	3.19	190.03	2.05	8.54
Haricot Beans	19.95	2.86	137.29	1.48	6.88
Chick Peas	3.60	0.52	15.01	0.16	4.17
Lentils	0.66	0.09	**	**	**
Vetch	**	**	NS	-	-
Others	0.65	0.09	0.23	-	0.35
Neug	-	-	-	-	-
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	0.09	0.01	NS	-	-
Sunflower	**	**	NS	-	-
Sesame	**	**	NS	-	-
Fenugreek	**	**	NS	-	-
All Crops	697.60	100.00	9,265.15	100.00	13.28

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 10.1 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

YEM*, KEFICHO, MAJI, SHEKICHO AND BENCHI Zones

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	90.77	84.71	1,359.69	91.13	14.98
Teff	23.81	22.22	195.52	13.10	8.21
Barley	8.87	8.28	86.13	5.77	9.71
Wheat	3.00	2.80	**	**	**
Maize	31.84	29.72	705.13	47.26	22.15
Sorghum	22.59	21.08	337.29	22.61	14.93
Millet	0.62	0.58	**	**	**
Oats	**	**	**	**	**
Pulses	16.21	15.13	132.12	8.86	8.15
Horse Beans	9.07	8.46	81.81	5.48	9.02
Field Peas	5.60	5.23	34.88	2.34	6.23
Haricot Beans	1.51	1.41	**	**	**
Chick Peas	0.02	0.02	NS	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	0.17	0.16	0.20	0.01	1.18
Neug	-	-	-	-	-
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	107.15	100.00	1,492.01	100.00	13.92

* Special Wereda

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 10.2 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

NORTH AND SOUTH OMO, GARDULA* AND KONSO* Zones

	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
CROP TYPE	('000 hectare)	%	('000 quintal)	%	
Cereals	220.36	86.96	2,373.95	90.07	10.77
Teff	51.10	20.16	406.32	15.42	7.95
Barley	13.11	5.17	**	**	**
Wheat	**	**	**	**	**
Maize	57.91	22.85	723.30	27.44	12.49
Sorghum	95.78	37.80	1,050.61	39.86	10.97
Millet	**	**	**	**	**
Oats	-	-	-	-	-
Pulses	32.65	12.88	261.73	9.93	8.02
Horse Beans	12.78	5.04	124.30	4.72	9.73
Field Peas	7.53	2.97	66.54	2.52	8.84
Haricot Beans	9.95	3.93	59.38	2.25	5.97
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	-	-	-	-	-
Others	0.39	0.15	NS	-	-
Neug	-	-	-	-	-
Linseed	**	**	NS	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	**	**	NS	-	-
Sunflower	**	**	NS	-	-
Sesame	**	**	NS	-	-
Fenugreek	-	-	-	-	-
All Crops	253.41	100.00	2,635.68	100.00	10.40

* Special Wereda

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 10.3 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

HADIYA, KEMBATA AND GURAGE Zones

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	243.11	93.88	4,038.81	96.10	16.61
Teff	78.10	30.16	750.32	17.85	9.61
Barley	15.40	5.95	201.64	4.80	13.09
Wheat	50.06	19.33	1,005.52	23.93	20.09
Maize	76.60	29.58	1,757.59	41.82	22.95
Sorghum	20.51	7.92	272.80	6.49	13.30
Millet	**	**	**	**	**
Oats	0.02	0.01	-	-	-
Pulses	15.76	6.09	163.87	3.90	10.40
Horse Beans	8.76	3.38	113.27	2.70	12.93
Field Peas	4.34	1.68	39.97	0.95	9.21
Haricot Beans	1.81	0.70	9.30	0.22	5.14
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	**	**	-	-	-
Others	0.09	0.03	NS	-	-
Neug	-	-	-	-	-
Linseed	**	**	NS	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	NS	-	-
All Crops	258.95	100.00	4,202.69	100.00	16.23

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 10.4 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

SIDAMA, GEDIO, BURJI* AND AMARO* Zones

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	55.49	71.06	687.61	73.56	12.39
Teff	7.44	9.53	61.51	6.58	8.27
Barley	14.93	19.12	158.99	17.01	10.65
Wheat	3.21	4.11	**	**	**
Maize	28.30	36.24	410.51	43.92	14.51
Sorghum	1.48	1.90	**	**	**
Millet	-	-	-	-	-
Oats	**	**	**	**	**
Pulses	22.59	28.93	247.14	26.44	10.94
Horse Beans	9.98	12.78	140.03	14.98	14.03
Field Peas	4.79	6.13	48.64	5.20	10.15
Haricot Beans	6.68	8.55	**	**	**
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	-	-	-	-	-
Others	0.01	0.01	0.03	-	3.00
Neug	-	-	-	-	-
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	78.09	100.00	934.77	100.00	11.97

* Special Wereda

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 11. Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

GAMBELA

CROP TYPE	TOTAL AREA ('000 hectare)	TOTAL AREA %	TOTAL PRODUCTION ('000 quintal)	TOTAL PRODUCTION %	YIELD (QT/HA)
Cereals	9.65	95.73	226.02	99.18	23.42
Teff	-	-	-	-	-
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	5.16	51.19	147.89	64.90	28.66
Sorghum	4.44	44.05	78.13	34.28	17.60
Millet	**	**	NS	-	-
Oats	-	-	-	-	-
Pulses	0.02	0.20	0.09	0.04	4.50
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	**	**	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	0.41	4.07	1.77	0.78	4.32
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	0.15	1.49	0.26	0.11	1.73
Sunflower	-	-	-	-	-
Sesame	**	**	**	**	**
Fenugreek	-	-	-	-	-
All Crops	10.08	100.00	227.89	100.00	22.61

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 12. Estimates of Area, Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

HARARI

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	3.68	83.45	39.48	85.81	10.73
Teff	-	-	-	-	-
Barley	**	**	**	**	**
Wheat	0.12	2.72	**	**	**
Maize	0.68	15.42	7.81	16.97	11.49
Sorghum	2.84	64.40	30.20	65.64	10.63
Millet	-	-	-	-	-
Oats	**	**	**	**	**
Pulses	0.03	0.68	0.17	0.37	5.67
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	**	**	**
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	0.69	15.65	6.36	13.82	9.22
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	0.69	15.65	6.36	13.82	9.22
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	4.41	100.00	46.01	100.00	10.43

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 13. Estimates of Area, Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

ADDIS ABABA

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	7.84	79.11	118.93	80.57	15.17
Teff	4.57	46.12	62.50	42.34	13.68
Barley	0.02	0.20	0.22	0.15	11.00
Wheat	3.16	31.89	54.79	37.12	17.34
Maize	-	-	-	-	-
Sorghum	0.09	0.91	1.42	0.96	15.78
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	1.98	19.98	27.85	18.87	14.07
Horse Beans	0.13	1.31	1.29	0.87	9.92
Field Peas	0.06	0.61	**	**	**
Haricot Beans	-	-	-	-	-
Chick Peas	0.60	6.05	11.04	7.48	18.40
Lentils	0.51	5.15	4.17	2.83	8.18
Vetch	0.69	6.96	10.91	7.39	15.81
Others	0.08	0.81	0.83	0.56	10.38
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	0.08	0.81	0.83	0.56	10.38
All Crops	9.91	100.00	147.61	100.00	14.90

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

Table 14. Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

DIRE DAWA

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	7.38	99.86	43.29	100.00	5.87
Teff	-	-	-	-	-
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	0.23	3.11	NS	-	-
Sorghum	7.16	96.89	43.29	100.00	6.05
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	0.01	0.14	NS	-	-
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	**	**	NS	-	-
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	7.39	100.00	43.29	100.00	5.86

** These estimates could not be reported in this table because of high coefficient of variation(i.e.less reliable). However they are consolidated in the total estimates.

APPENDIX I

SURVEY QUESTIONNAIRES

CENTRAL STATISTICAL AUTHORITY
NATIONAL INTEGRATED HOUSEHOLD SURVEY-PROGRAM
HOUSEHOLDS LISTING FORM – 1998 E.C

LISTING FORM – 88/0

JOB ID	1	2	3
	1	3	1

PART 1 – IDENTIFICATION PARTICULARS

1	2	3	4	5	6
REGION	ZONE	WEREDA	SUPERVISION AREA	FARMERS' ASSOCIATION	ENUMERATION AREA
4 5	6 7	8 9	10 11	12 13 14	15 16

PART 2 – LIST OF HOUSEHOLDS

1				2	3	4				5	6	7	8				9		10	
SERIAL NUMBER OF HOUSEHOLDS				NAME OF HEAD OF HOUSEHOLD	IS ANY MEMBER OF HH ENGAGED IN AGRICULTURE YES=1 NO=2	SERIAL NO. OF HHS WITH NO MEMBER ENGAGED IN AGRICULTURE (Col 3 Code2)				IF CODE 1 IN COL3 IS THERE A HOLDER IN THE HOUSEHOLD YES=1NO=2	SR.NO. OF HOLDERS WITHIN HOUSEHOLD (COL5 CODE 1)	NAME OF THE HOLDER	SERIAL NO. OF HHS WITH HOLDERS (Col 5 Code1)				ORDER OF SELECTION			
																	AGRI. SURVEY		OTHER SURVEYS	
17	18	19	20		21	22	23	24	25	26	27		28	29	30	31	32	33	34	35

TOTAL NUMBER OF HOUSEHOLDS WITH HOLDERS LISTED IN THE EA

	NAME	SIGNATURE	DATE
ENUMERATOR			
SUPERVISOR			
REGIONAL SUPERVISOR			

PAGE___ OF___PAGES

CENTRAL STATISTICAL AUTHORITY — FORM ASS-88/1

NATIONAL INTEGRATED HOUSEHOLD SURVEY PROGRAM

AGRICULTURAL SAMPLE SURVEY – 1988 E.C.

JOB ID			
JOB	1	2	3
ID	1	3	2

PART 1 – IDENTIFICATION PARTICULARS

1	2	3	4	5	6
REGION	ZONE	WEREDA	SUPERVISION AREA	FARMERS' ASSOCIATION	ENUMERATION AREA
4 5	6 7	8 9	10 11	12 13 14	15 16

PART 2 – LIST OF SAMPLED HOUSEHOLDS AND HOLDERS

1				2	3		4	5		6			7
SERIAL NUMBER OF HOUSEHOLDS (ASS 87/0 col1				NAME OF HEAD OF HOUSEHOLD (ASS 87/0 col2)	SERIAL NUMBER OF HOLDER (WITHIN HOU-SEHOLD		NAME OF OF HOLDER	TYPE OF AGRICULTURE CROP=1 LIVESTOCK=2 BOTH=3		ORDER OF SAMPLING (ASS 87/0 col6)			REMARKS
17	18	19	20			21			22		23	24	

CENTRAL STATISTICAL AUTHORITY
NATIONAL INTEGRATED HOUSEHOLD SURVEY PROGRAM
CROP PRODUCTION FORECAST – 1988 E.C.

FORM ASS–88/2

JOB ID	1	2	3
	1	3	3

PART 1 – IDENTIFICATION PARTICULARS

1	2	3	4	5	6	7
REGION	ZONE	WEREDA	SUPERVISION AREA	FARMERS' ASSOCIATION	ENUMERATION AREA	NAME OF CROP
4 5	6 7	8 9	10 11	12 13 14	15 16	17 18

PART 2 CROP CONDITION

1		2	3				4		5	6	7			8			9	10		11			12				13
										CROP PRODUCTIVITY COMPARED TO LAST YEAR																	
SR. NO.		NAME OF HOLDER	HOUSEHOLD ID NUMBER				HOLD. ID NUMB.		NO. OF FIELDS	INCREASE=1 EQUAL=2 DECREASE=3	IF INCREASE PERCENTAGE CHANGE			IF DECREASE						PRECENT – AGE CHANGE			FOR OFFICE USE ONLY COLUMN 5*11				REMARKS
														QUANT. IN PERCENT			REASON FOR	CODE									
19	20		21	22	23	24	25	26	27 28 29	30	31	32	33	34	35	36	DECREASE	37	38	39	40	41	42	43	44	45	
0	1																										
0	2																										
0	3																										
0	4																										
0	5																										
0	6																										
0	7																										
0	8																										
0	9																										
1	0																										
							TOTAL										SUM										
																	AVERAGE										

	NAME	SIGNITURE	DATE
ENUMERATORS			
SUPERVISOR			
REGIONAL SUPERVISOR			

CENTRAL STATISTICAL AUTHORITY
NATIONAL INTEGRATED HOUSEHOLD SURVEY PROGRAM
AGRICULTURAL SAMPLE SURVEY – 1988 E.C.

FORM ASS–88/3A

JOB ID: 1 2 3 / 1 5 1

PART 1 – IDENTIFICATION PARTICULARS

1	2	3	4	5	6	7	8	9	10	11	12	13	14
REGION	ZONE	WEREDA	SUPERVISION AREA	FARMERS' ASSOCIATION	ENUMERATION AREA	HOUSEHOLD ID NUMBER	HOLDER ID NUMBER	HOLDER'S NAME	SEX	AGE	EDUC. STATUS (grade compl)	NUMBER OF MEMB –ERS OF HOLDR'S HH.	TYPE OF AGRICULT. CROP=1 LVSTO=2 BOTH=3
4 5	6 7	8 9	10 11	12 13 14	15 16	17 18 19 20	21 22		23 24 25		26	27 28	29

PART 2– LIST OF FIELDS AND AGRICULTURAL PRACTICES (MEHER SEASON)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
LINE NO.	SERIAL NO.OF PARCEL	SERIAL NO.OF FIELD	CROP NAME TEMPORARY	CODE	TYPE OF SEED USE IMPROVED=1 INDIGN.=2	USE OF IRRIG, YES=1 NO=2	USE OF FERTILZERS: USE YES=1 NO=2	IF YES NATURL=1 COMM=2 BOTH=3	IF COMMERCIAL FERT. UREA=1 DAP=2 BOTH=3	QUANTITY USED KG.	QUANTITY USED GRAMS	USE OF PEST–CIDES YES=1 NO=2	WAS CROP DAMAGED ? YES=1 NO=2	IF YES REASON OF DAMAGE	CODE	PERCENT DAMAGED	REMARKS
30 31	32 33	34 35		36 37	38	39	40	41	42	43 44 45	46 47 48	49	50		51 52	53 54	
0 1																	
0 2																	
0 3																	
0 4																	
0 5																	
0 6																	
0 7																	
0 8																	
			PERMANENT														
0 1																	
0 2																	
0 3																	
0 4																	
0 5																	
0 6																	

NOTES ON COL. 12 ABOVE

ILLITERATE	=	1
GRADES 1–3	=	2
GRADES 4–6	=	3
GRADES 7–8	=	4
GRADES 9–11	=	5
GRADE 12 COMP.	=	6
ABOVE 12 GRADE	=	7

NOTE: THIS FORM SHOULD BE FILLED OUT FOR ALL TEMPORARY AND PERMANENT CROPS IN PURE STANDS

JOB ID	1	2	3
	1	5	2

PART 3– LIST OF FIELDS AND AGRICULTURAL PRACTICES FOR MIXED CROPS (MEHER SEASON)

1	2		3		4	5	6	7	8	9							10	11	12		13	14	15	16	17	18		19
LINE NO.	SERIAL NO.OF PARCEL		FIELD		CROP NAME MIXED STAND	USE OF IRRIG. YES=1 NO=2	USE OF FERTILZERS: USE YES=1 NO=2	IF YES NATURL=1 COMM=2 BOTH=3	IF COMMERCIAL FERT. UREA=1 DAP=2 BOTH=3	QUANTITY USED: KG.			GRAMS			SR. NO	LIST OF CROPS IN MIXED STAND	CODE		TYPE OF SEED IMPRVD=1 INDIGN.=2	USE OF PEST-CIDES YES=1 NO=2	WAS CROP DAMAGED ? YES=1 NO=2	IF YES REASON OF DAMAGE	CODE	PERCENT DAMAGED		REMARKS
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51		52	53	54	55	
0	1																										
0	2																										
0	3																										
0	4																										
0	5																										

JOB ID	1	2	3
	1	8	1

PART 4– LIST OF PERMANENT CROPS AND NUMBER OF TREES

1	2		3		4				5				6
LINE NO.	PERMANENT CROP NAME		CODE		TOTAL NUMBER OF TREES				NUMBER OF TREES GIVING YIELD IN CURRENT YEAR				REMARK
30	31		32	33	34	35	36	37	38	39	40	41	

ENUMERATOR _____
SIGNATURE _____
DATE _____

SUPERVISOR _____
SIGNATURE _____
DATE _____

REGIONAL SUPERVISOR _____
SIGNATURE _____
DATE _____

CENTRAL STATISTICAL AUTHORITY
NATIONAL INTEGRATED HOUSEHOLD SURVEY PROGRAM
INDUSTRIAL INPUTS OF MEHER SEASON – 1988 E.C.

FORM ASS–88/3B

JOB ID	1	2	3
	1	8	2

PART 1 – IDENTIFICATION PARTICULARS

1	2	3	4	5	6	7	8	9	10	11	12	13	14
REGION	ZONE	WEREDA	SUPERVISION AREA	FARMERS' ASSOCIATION	ENUMERATION AREA	HOUSEHOLD ID NUMBER	HOLDER ID NUMBER	HOLDER'S NAME	SEX	AGE	EDUC. STATUS (grade compl)	NUMBER OF MEMB –ERS OF HOLDR'S HH.	TYPE OF AGRICULT. CROP=1 LVSTO.=2 BOTH=3
4 5	6 7	8 9	10 11	12 13 14	15 16	17 18 19 20	21 22		23 24 25		26	27 28	29

PART 2– QUANTITY OF IMPROVED SEED AND PRICE

1	2	3	4	5						6						7
LINE NO.	USE OF IMPROVED SEED YES=1	IF YES NAME OF CROP		IMPROVED SEED USED												REMARKS
				QUANTITYY						PRICE						
			CODE	KG			GRAM			BIRR				CENT		
30 31	NO=2 32		33 34	35	36	37	38	39	40	41	42	43	44	45	46	
0 1																
0 2																
0 3																
0 4																
0 5																
0 6																

NOTES ON COL. 12 ABOVE

ILLITERATE	=	1
GRADES 1–3	=	2
GRADES 4–6	=	3
GRADES 7–8	=	4
GRADES 9–11	=	5
GRADE 12 COMP.	=	6
ABOVE 12 GRADE	=	7

JOB ID	1	2	3
	1	8	3

PART 3– QUANTITY OF FERTILIZERS AND PRICE

1	2	3	4	5						6						7
LINE NO.	USE OF FERTILIZ–ERS YES=1	IF YES TYPE(NAME) OF FERTILIZER		FERTILIZER USED												REMARKS
				QUANTITYY						PRICE						
			CODE	KG			GRAM			BIRR				CENT		
30 31	NO=2 32		33 34	35	36	37	38	39	40	41	42	43	44	45	46	
0 1																
0 2																
0 3																
0 4																

JOB ID	1	2	3
	1	8	4

PART 4– QUANTITY OF CROP PROTECTION CHEMICALS AND PRICE

1	2		3	4		5	6	7	8			9						10
LINE NO.	USE OF CHEMI–CALS YES=1		IF YES TYPE(NAME) OF CHEMICAL	CODE		CROP PROTECTION CHEMICAL USED: INSECT=1 FUNGI=2 HERBI=3	NAME OF UNIT	CODE	QUANTIYY			PRICE BIRR				CENT		REMARKS
30	31	NO=2 32		33	34	35		36	37	38	39	40	41	42	43	44	45	46	47	48	49	
0	1																					
0	2																					
0	3																					
0	4																					
0	5																					
0	6																					
0	7																					

REMARKS

	NAME	SIGNATURE	DATE
ENUMERATOR			
SUPERVISOR			
REGIONAL SUPERVISOR			

CENTRAL STATISTICAL AUTHORITY
NATIONAL INTEGRATED HOUSEHOLD SURVEY PROGRAM
AGRICULTURAL SAMPLE SURVEY – 1988 E.C.

FORM ASS–88/4

JOB ID	1	2	3
	1	5	3

PART 1 – IDENTIFICATION PARTICULARS

1	2	3	4	5	6
REGION	ZONE	WEREDA	SUPERVISION AREA	FARMERS' ASSOCIATION	ENUMERATION AREA
4 5	6 7	8 9	10 11	12 13 14	15 16

7	8	9	10	11	12	13
HOUSEHOLD ID NUMBER	HOLDER ID NUMBER	HOLDER NAME	PARCEL	FIELD	NAME OF CROP	CODE
17 18 19 20	21 22		23 24	25 26		27 28

PART 2– RESULTS OF AREA MEASUREMENTS

1		2	3	4	5	6
DATE OF AREA MEASUREMENT		AREA IN SQUARE METERS	AREA IN LOCAL UNITS			TYPE OF CROP STAND IN FIELD PURE=1 MIXED=2
DAY	MONTH		NAME	CODE	AREA	
29 30	31 32	33 34 35 36 37 38 39		40 41	42 43 44 45 46	47

7	8	9	10	11	12
IF CODE 2 IN COLUMN 6				IF AREA NOT MEASURED REASON	CODE
SR. NO.	NAME OF CROP	CODE	PERCENTAGE SHARE OF AREA		
48		49 50	51 52		53 54

	NAME	SIGNATURE	DATE
ENUMERATOR			
SUPERVISOR			
REGIONAL SUPERVISOR			

PART 3 – FIELD AREA MEASUREMENT

SIDE	A – B					B – C					C –					D –					E –					F –					G –				
BEARING (0)			55	56	57			58	59	60			61	61	63			64	65	66			67	68	69			70	71	72			73	74	75
DISTANCE (M)	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110
SIDE	F –					I –					J –					K –					L –					M –					N –				
BEARING (0)			111	112	113			114	115	116			117	118	119			120	121	122			123	124	125			126	127	128			129	130	131	132
DISTANCE (M)	133	134	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166
SIDE	O –					P –					Q –					R –					S –					T –					U –				
BEARING (0)			167	168	169			170	171	172			173	174	175			176	177	178			179	180	181			182	183	184			185	186	187
DISTANCE (M)	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222

SCALE 1 CM = ---------- METERS

NUMBER OF FULL SQUARES= ---------- HALF AND GREATER SQUARES = ----------

TOTAL NUMBER OF SQUARES = ---------- FIELD AREA= ---------- SQUARE METERS

CENTRAL STATISTICAL AUTHORITY
NATIONAL INTEGRATED HOUSEHOLD SURVEY PROGRAM
AGRICULTURAL SAMPLE SURVEY – 1988 E.C.

FORM ASS–88/5

JOB ID	1	2	3
	1	9	4

PART 1 – IDENTIFICATION PARTICULARS

1	2	3	4	5	6	7	8	9
REGION	ZONE	WEREDA	SUPERVISION AREA	FARMERS' ASSOCIATION	ENUMERATION AREA	HOUSEHOLD ID NUMBER	HOLDER ID NUMBER	HOLDER NAME
4 5	6 7	8 9	10 11	12 13 14	15 16	17 18 19 20	21 22	

PART 2 – LIST OF FIELDS AND SELECTION OF FIELDS FOR CROP CUTING

1	2	2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
SERIAL NO.OF		CROP NAME TEMPORARY &		PRODUCTION IN LOCAL UNITS			AREA IN SQUARE METERS	NAME OF CROPS												REMARKS
PARCEL	FIELD		CODE	NAME	CODE	PRODUCTION		FIELD NO.	SL.FLD NO.	FIELD NO.	SL.FLD NO.	FIELD NO.	SL.FLD NO.	FIELD NO.	SL.FLD NO.	FIELD NO.	SL.FLD NO.	FIELD NO.	SL.FLD NO.	
23 24	25 26	TEMP MIX.	27 28		29 30	31 32 33 34 35	36 37 38 39 40 41 42													

NOTE : A) TO THIS FORM ALL TEMPORARY CROPS WITH PURE AND MIXED STAND
B) PERMANENT AND TEMPORERY MIXED STAND CROPS WILL BE TRANSFERED

JOB ID	1	2	3
	1	5	4

PART 3 – DETAILS OF CROPCUTING

1	2			3	4		5				6					7				8					9	10	11		12		13		14
SERIAL NO.OF				CROP NAME	CODE		DATE OF HARVEST				FRESH WEIGHT					DATE OF RECORDING DRY WEIGHT				DRY WEIGHT					WAS CROP DAMAGED ?						TYPE OF CROP STAND PURE=1 MIXED=2		REMARKS
PARCEL		FIELD					DAY		MONTH		KG			GRAMS		DAY		MONTH		KG			GRAMS		YES=1 NO=2	IF YES REASON OF DAMAGE	CODE		PERCENT DAMAGED				
23	24	25	26		27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47		48	49	50	51		52	

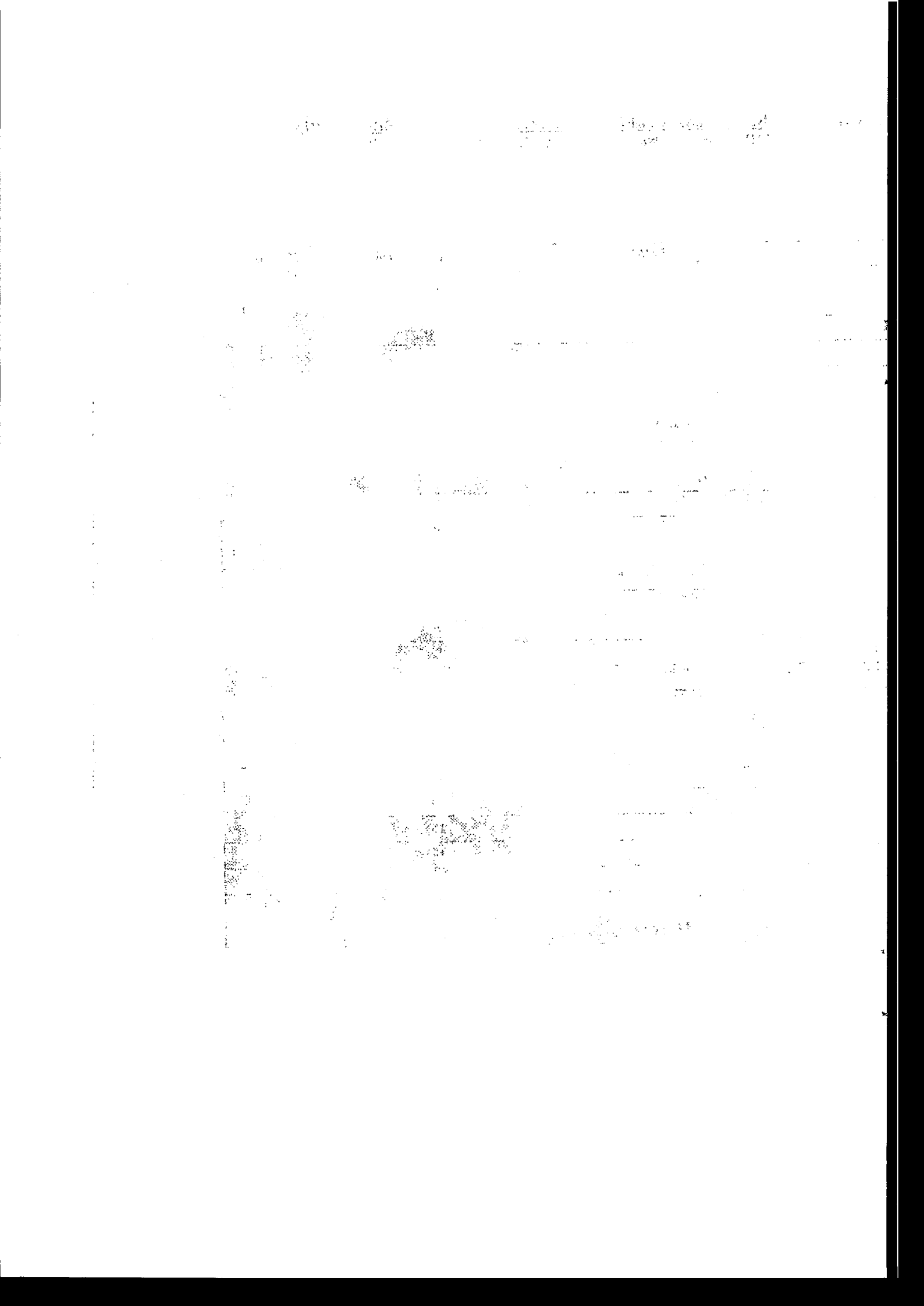
	NAME	SIGNATURE	DATE
ENUMERATOR			
SUPERVISOR			
REGIONAL SUPERVISOR			

APPENDIX II

NUMBER OF EAs SAMPLED, COVERED AND NOT COVERED

APPENDIX II. **NUMBER OF EAs SAMPLED, COVERED AND NOT COVERED DURING THE 1995/96 (1988 E.C.) AGRICULTURAL SAMPLE SURVEY**

REGION	*REPORTING LEVEL*	*NUMBER OF EAs SAMPLED*	*NUMBER OF EAs COVERED*	*NUMBER OF EAs NOT COVERED*
TIGRAY	TIGRAY	35	34	1
AFAR	AFAR	15	15	-
AMHARA	N. & S. GONDER	40	38	2
	AGEWAWI, E. & W. GOJAM	40	40	-
	N. WOLO & WAGHAMRA	35	34	1
	S. WOLO, OROMIYA & N. SHOA	40	40	-
	TOTAL	155	152	3
OROMIYA	E. & W. WELEGA	40	40	-
	ILLUBABOR & JIMA	40	40	-
	N. & W. SHOA	40	39	1
	E. SHOA, ARSI, BALE & BORENA	40	40	-
	E. & W. HARERGHE	40	39	1
	TOTAL	200	198	2
SOMALIE	SOMALIE	15	15	-
BENSHANGUL-GUMEZ	BENSHANGUL-GUMEZ	15	15	-
S.N.N.P.R.	YEM, KEFICHO,MAJI,SHEKICHO & BENCH	35	35	-
	N. & S. OMO, DERASHE & KONSO	35	35	-
	HADIYA, KEMBATA & GURAGE	35	35	-
	SIDAMA, GEDIO, BURJI & AMARO	35	35	-
	TOTAL	140	140	-
GAMBELA	GAMBELA	15	15	-
HARARI	HARARI	10	10	-
ADDIS ABABA	ADDIS ABABA	10	10	-
DIRE DAWA	DIRE DAWA	10	8	2
	GRAND TOTAL	**620**	**612**	**8**

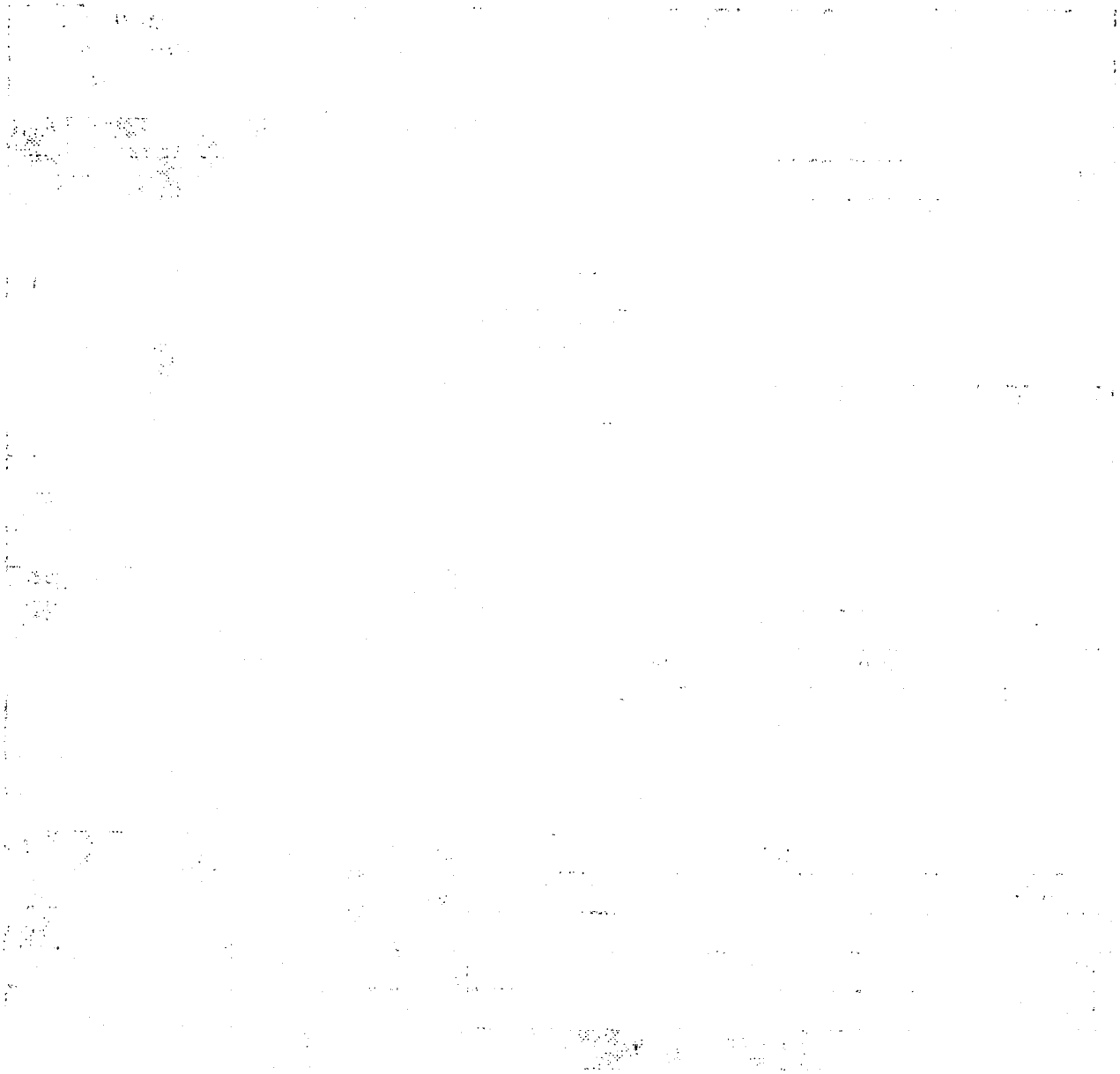


APPENDIX III

NUMBER OF HOUSEHOLDS EXPECTED TO BE COVERED AND ACTUALLY COVERED

APPENDIX III. NUMBER OF HOUSEHOLDS EXPECTED TO BE COVERED AND ACTUALLY COVERED - 1995/96 (1988 E.C.)

REGION	*REPORTING LEVEL*	*NUMBER OF HOUSEHOLDS EXPECTED TO BE COVERED*	*NUMBER OF HOUSEHOLDS COVERED*
TIGRAY	TIGRAY	875	809
AFAR	AFAR	375	297
AMHARA	N. & S. GONDER	1,000	917
	AGEWAWI, E. & W. GOJAM	1,000	977
	N. WOLO & WAGHAMRA	875	808
	S. WOLO, OROMIYA & N. SHOA	1,000	969
	TOTAL	3,875	3,671
OROMIYA	E. & W. WELEGA	1,000	999
	ILLUBABOR & JIMA	1,000	976
	N. & W. SHOA	1,000	955
	E. SHOA, ARSI, BALE & BORENA	1,000	940
	E. & W. HARERGHE	1,000	960
	TOTAL	5,000	4,830
SOMALIE	SOMALIE	375	357
BENSHANGULE-GUMEZ	BENSHANGUL-GUMEZ	375	371
S.N.N.P.R.	YEM, KEFICHO,MAJI,SHEKICHO & BENCH	875	859
	N. & S. OMO, DERASHE & KONSO	875	861
	HADIYA, KEMBATA & GURAGE	875	873
	SIDAMA, GEDIO, BURJI & AMARO	875	842
	TOTAL	3,500	3,435
GAMBELA	GAMBELA	375	340
HARARI	HARARI	250	244
ADDIS ABABA	ADDIS ABABA	250	248
DIRE DAWA	DIRE DAWA	250	198
	GRAND TOTAL	**15,500**	**14,800**

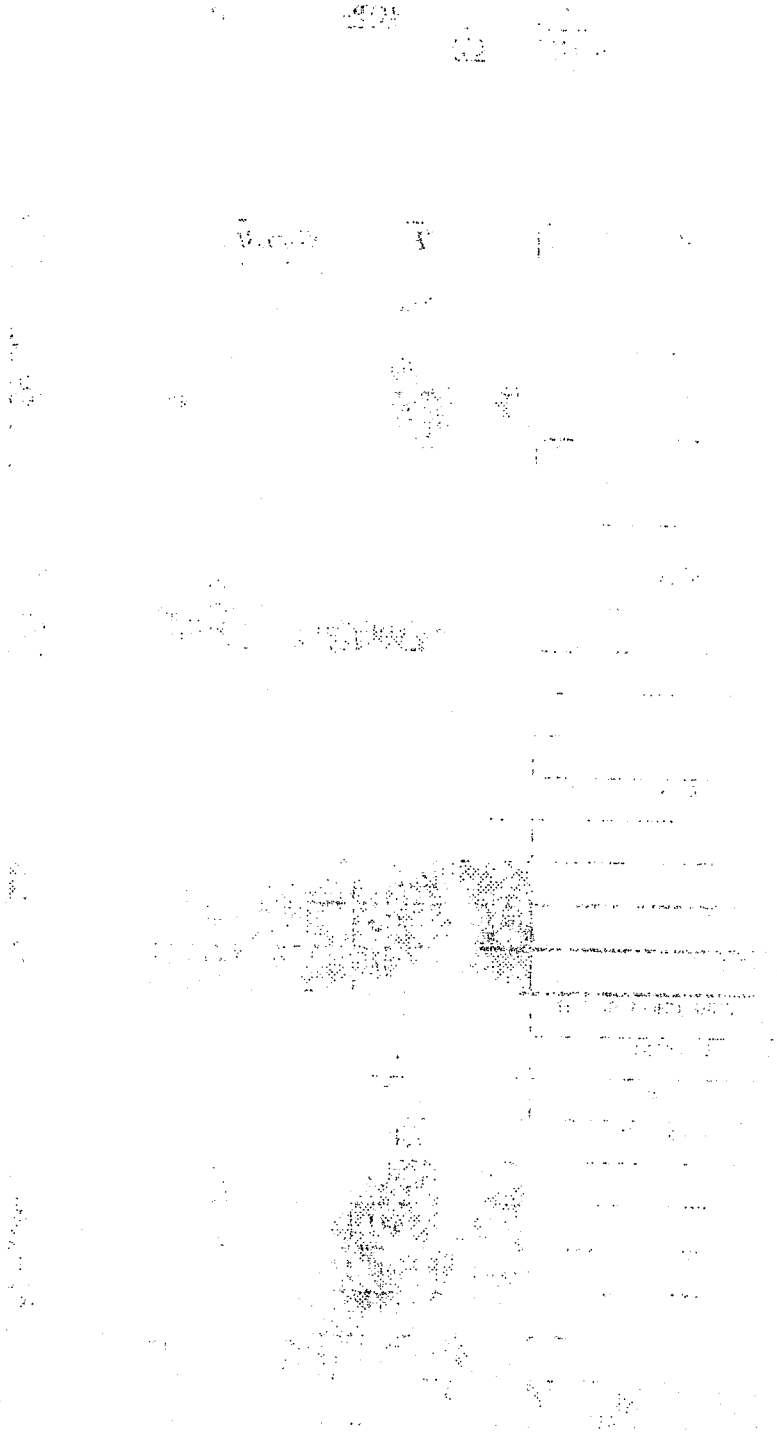


APPENDIX IV

NUMBER OF PARCELS, FIELDS MEASURED AND CROP-CUTTINGS CONDUCTED

APPENDIX IV. NUMBER OF PARCELS, FIELDS MEASURED AND CROP-CUTTINGS CONDUCTED - 1995/96 (1988 E.C.)

REGION	*REPORTING LEVEL*	*NUMBER OF PARCELS*	*NUMBER OF FIELDS MEASURED*	*NUMBER OF CROP-CUTTINGS*
TIGRAY	TIGRAY	2,049	3,343	1,367
AFAR	AFAR	534	711	262
AMHARA	N. & S. GONDER	3,445	5,298	1,790
	AGEWAWI, E. & W. GOJAM	4,057	6,127	1,975
	N. WOLO & WAGHAMRA	2,488	3,836	1,349
	S. WOLO, OROMIYA & N. SHOA	3,066	5,369	1,622
	TOTAL	13,056	20,630	6,736
OROMIYA	E. & W. WELEGA	3,486	7,528	2,212
	ILLUBABOR & JIMA	2,744	5,963	1,567
	N. & W. SHOA	3,987	6,125	1,877
	E. SHOA, ARSI, BALE & BORENA	2,792	5,035	1,638
	E. & W. HARERGHE	2,199	3,033	1,115
	TOTAL	15,208	27,684	8,409
SOMALIE	SOMALIE	473	753	155
BENSHANGULE-GUMEZ	BENSHANGUL-GUMEZ	1,176	1,753	654
S.N.N.P.R	YEM, KEFICHO,MAJI,SHEKICHO & BENCH	1,857	3,551	979
	N. & S. OMO, DERASHE & KONSO	1,429	3,297	795
	HADIYA, KEMBATA & GURAGE	1,627	4,908	1,033
	SIDAMA, GEDIO, BURJI & AMARO	1,409	2,817	483
	TOTAL	6,322	14,573	3,290
GAMBELA	GAMBELA	641	1,022	210
HARARI	HARARI	600	701	254
ADDIS ABABA	ADDIS ABABA	704	1,187	428
DIRE DAWA	DIRE DAWA	222	251	56
	GRAND TOTAL	**41,585**	**73,309**	**22,075**



APPENDIX V

ESTIMATION PROCEDURE OF TOTAL, RATIO AND SAMPLING ERROR

APPENDIX V

ESTIMATION PROCEDURES OF TOTAL, RATIO AND SAMPLING ERRORS.

The following formulas were used to estimate total area of land under specific crop, level of production and yield of specific crop in a given stratum.

1. For estimating total area of land under specific crop:

$$\hat{A}_h = \sum_{i=1}^{n_h} W_{hi} a_{hi}$$

in which

$$W_{hi} = \frac{N_h M_{hi}}{n_h N_{hi} m_{hi}}$$

is the weight.

where

h represents the stratum.

n_h is the total number of EAs selected in h^{th} stratum.

N_h is the measure of size of the h^{th} stratum obtained from the sampling frame.

N_{hi} is the measure of size of the i^{th} sample EA in the h^{th} stratum obtained from the sampling frame.

M_{hi} is the total number of agricultural households of the i^{th} sample EA in the h^{th} stratum obtained from households' listing of the survey.

m_{hi} is number of sample agricultural households of the i^{th} sample EA in the h^{th} stratum.

a_{hi} is the sample total of values of area in the i^{th} EA in the h^{th} stratum under a specific crop.

$\hat{A}_h$ is estimate of total area under specific crop in the h^{th} stratum.

2. For estimating level of production :

$$\hat{P}_h = \sum_{i=1}^{n_h} W_{hi} p_{hi}$$

in which

$$p_{hi} = \bar{a}_{hi} \times \bar{y}_{hi}$$

where

$$\bar{a}_{hi} = \frac{a_{hi}}{m_{hi}}, \bar{y}_{hi} = \frac{y_{hi}}{16 c_{hi}}$$

Note: W_{hi} is as defined above.

where y_{hi} is sample total of yield of a specific crop from 16 mt^2 area of land for crop -cutting of crop in the i^{th} EA in the h^{th} stratum.

c_{hi} is number of crop-cuttings of a specific crop in the i^{th} EA in the h^{th} stratum.

$\bar{a}_{hi}$ is sample average area per agricultural household under specific crop in the i^{th} EA in the h^{th} stratum

$\bar{y}_{hi}$ is average yield per square meter of a specific crop in the i^{th} EA in the h^{th} stratum.

$\hat{P}_{hi}$ is estimate of production quantity per household of a specific crop in the i^{th} EA in the h^{th} stratum.

$\hat{P}_h$ is estimate of total production quantity of a specific crop in the h^{th} stratum.

3. Estimate of yield of a specific crop is given by:

$$\hat{Y}_h = \frac{\hat{P}_h}{\hat{A}_h}$$

4. Sampling Variance of Estimates:

Sampling variance of estimate of stratum total of area, production and yield for a specific crop are estimated by the following formulas, respectively.

$$Var(\hat{A}_h) = \frac{n_h}{n_h - 1}\left[\sum_{i=1}^{n_h} \hat{A}_{hi}^2 - \frac{\hat{A}_h^2}{n_h}\right]$$

$$Var(\hat{P}_h) = \frac{n_h}{n_h - 1}\left[\sum_{i=1}^{n_h} \hat{P}_{hi}^2 - \frac{\hat{P}_h^2}{n_h}\right]$$

$$Var(\hat{Y}_h) = \frac{1}{\hat{A}_h^2}\left[Var(\hat{P}_h) + \hat{Y}_h^2 Var(\hat{A}_h) - 2\hat{Y}_h Cov(\hat{P}_h, \hat{A}_h)\right]$$

where

$$Cov(\hat{P}_h, \hat{A}_h) = \frac{n_h}{n_h - 1}\left[\sum_{i=1}^{n_h} (\hat{A}_{hi} - \frac{\hat{A}_h}{n_h})(\hat{P}_{hi} - \frac{\hat{P}_h}{n_h})\right]$$

In estimating the sampling variance by the above formula, selection of EAs within a stratum is assumed to be with replacement. By so doing the variance estimate may be slightly over estimated but it greatly simplify the estimation procedure. Further more the finite population correction (fpc) is ignored in the formula. This is due to the fact that its effect is negligible.

5. Coefficient of Variation(CV) of esimates:

Coefficient of Variation (CV) in percentage of estimate of stratum total of area, production and yield for a specific crop are given respectively by:

$$CV(\hat{A}_h) = \frac{\sqrt{Var(\hat{A}_h)}}{\hat{A}_h} \times 100$$

$$CV(\hat{P}_h) = \frac{\sqrt{Var(\hat{P}_h)}}{\hat{P}_h} \times 100$$

$$CV(\hat{Y}_h) = \frac{\sqrt{Var(\hat{Y}_h)}}{\hat{Y}_h} \times 100$$

APPENDIX VI

STANDARD ERROR AND COEFFICIENT OF VARIATIONS FOR ESTIMATES

APPENDIX VI

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION FOR MAJOR CROPS, NATIONAL.

TYPE OF CROP	AREA ('000 ht)	S.E ('000)	C.V (%)	PRODUCTION ('000 qt)	S.E ('000)	C.V (%)
Teff	2097.30	120.53	5.75	17523.75	1121.48	6.40
Barley	824.44	69.45	8.42	8716.40	860.98	9.88
Wheat	880.76	77.44	8.79	10751.48	1080.49	10.05
Maize	1280.68	74.31	5.80	25392.92	1870.75	7.37
Sorghum	1252.42	78.52	6.27	17226.53	1337.59	7.76
Millet	269.31	35.06	13.02	2349.45	333.09	14.18
Oats	44.79	11.80	26.34	650.59	228.06	35.05
Horse Beans	335.98	23.30	6.94	3583.80	308.05	8.60
Field Peas	180.13	16.69	9.27	1393.37	173.74	12.47
Haricot Beans	99.14	15.38	15.51	759.72	136.08	17.91
Chick peas	141.78	21.56	15.21	1228.97	235.96	19.20
Lentils	64.96	14.40	22.17	328.10	69.84	21.28
Vetch	69.16	12.43	17.97	804.36	169.70	21.10
Neug	222.49	25.64	11.52	856.90	111.09	12.96
Linseed	112.33	16.60	14.77	567.90	118.58	20.88
Rapeseed	3.75	1.51	40.27	**	**	**
Groundnuts	0.84	0.29	34.09	**	**	**
Sunflower	3.55	1.42	40.00	**	**	**
Sesame	1.43	0.63	44.06	**	**	**
Fenugreek	13.90	3.29	23.69	73.51	19.75	26.87
TOTAL	7899.14	203.07	2.57	92207.75	2979.60	3.23

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION FOR MAJOR CROPS IN TIGRAY REGION.

TYPE OF CROP	AREA ('000 ht)	S.E ('000)	C.V (%)	PRODUCTION ('000 qt)	S.E ('000)	C.V (%)
Teff	87.88	14.15	16.10	608.27	132.03	21.71
Barley	87.35	16.12	18.45	817.11	158.45	19.39
Wheat	84.55	20.18	23.86	846.53	211.44	24.98
Maize	45.05	10.80	23.97	679.63	183.83	27.05
Sorghum	96.14	24.25	25.22	1729.68	665.29	38.46
Millet	35.78	10.41	29.09	245.70	71.38	29.05
Oats	–	–	–	–	–	–
Horse Beans	11.36	3.23	28.45	163.61	50.94	31.13
Field Peas	3.80	1.34	35.35	29.06	11.58	39.86
Haricot Beans	–	–	–	–	–	–
Chick peas	8.81	3.40	38.56	70.13	27.80	39.64
Lentils	6.28	1.78	28.38	30.33	10.70	35.27
Vetch	**	**	**	**	**	**
Neug	**	**	**	**	**	**
Linseed	5.13	1.44	28.09	15.42	5.03	32.63
Rapeseed	–	–	–	–	–	–
Groundnuts	–	–	–	–	–	–
Sunflower	**	**	**	NS	–	–
Sesame	**	**	**	**	**	**
Fenugreek	**	**	**	**	**	**

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION FOR MAJOR CROPS IN AFAR REGION.

TYPE OF CROP	AREA ('000 ht)	S.E ('000)	C.V (%)	PRODUCTION ('000 qt)	S.E ('000)	C.V (%)
Teff	4.82	1.45	30.08	33.31	9.42	28.29
Barley	**	**	**	NS	–	–
Wheat	**	**	**	**	**	**
Maize	4.50	1.51	33.65	36.36	16.18	44.50
Sorghum	13.16	4.70	35.68	115.64	35.20	30.44
Millet	–	–	–	–	–	–
Oats	–	–	–	–	–	–
Horse Beans	–	–	–	–	–	–
Field Peas	–	–	–	–	–	–
Haricot Beans	**	**	**	NS	–	–
Chick peas	**	**	**	7.65	3.56	46.62
Lentils	–	–	–	–	–	–
Vetch	–	–	–	–	–	–
Neug	**	**	**	**	**	**
Linseed	–	–	–	–	–	–
Rapeseed	–	–	–	–	–	–
Groundnuts	–	–	–	–	–	–
Sunflower	**	**	**	NS	–	–
Sesame	**	**	**	NS	–	–
Fenugreek	–	–	–	–	–	–

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION FOR MAJOR CROPS IN AMHARA REGION.

TYPE OF CROP	AREA ('000 ht)	S.E ('000)	C.V (%)	PRODUCTION ('000 qt)	S.E ('000)	C.V (%)
Teff	882.28	65.37	7.41	6930.81	545.97	7.88
Barley	295.85	34.11	11.53	2509.46	367.73	14.65
Wheat	259.46	41.01	15.80	2314.02	378.18	16.34
Maize	289.69	26.97	9.31	5667.29	791.45	13.97
Sorghum	471.89	53.72	11.38	5678.86	700.77	12.34
Millet	173.19	32.20	18.59	1599.82	306.86	19.18
Oats	7.99	2.49	31.15	73.97	36.35	49.15
Horse Beans	129.33	12.90	9.97	1276.66	161.78	12.67
Field Peas	74.82	10.53	14.08	505.93	105.81	20.91
Haricot Beans	26.57	9.52	35.83	124.80	46.57	37.31
Chick peas	81.40	14.02	17.22	644.62	127.89	19.84
Lentils	32.25	10.54	32.69	184.52	49.37	26.76
Vetch	37.62	7.46	19.84	339.30	71.63	21.11
Neug	111.60	16.47	14.76	460.27	82.16	17.85
Linseed	42.02	8.23	19.58	171.76	47.01	27.37
Rapeseed	3.75	1.51	40.22	**	**	**
Groundnuts	–	–	–	–	–	–
Sunflower	3.55	1.42	39.99	**	**	**
Sesame	**	**	**	**	**	**
Fenugreek	4.82	1.38	28.65	25.35	9.54	37.61

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION FOR MAJOR CROPS IN OROMIYA REGION.

TYPE OF CROP	AREA ('000 ht)	S.E ('000)	C.V (%)	PRODUCTION ('000 qt)	S.E ('000)	C.V (%)
Teff	941.16	98.32	10.45	8377.51	946.34	11.30
Barley	384.67	57.52	14.95	4770.66	751.06	15.74
Wheat	469.99	60.92	12.96	6385.48	931.84	14.59
Maize	699.62	63.79	9.12	14660.28	1582.16	10.79
Sorghum	452.11	43.71	9.67	7319.63	837.63	11.44
Millet	49.68	8.46	17.03	425.24	101.75	23.93
Oats	36.80	11.53	31.32	576.62	225.14	39.04
Horse Beans	154.56	18.02	11.66	1682.83	242.81	14.43
Field Peas	79.19	12.14	15.33	668.35	130.67	19.55
Haricot Beans	52.62	11.52	21.89	497.63	123.90	24.90
Chick peas	47.97	15.96	33.27	480.52	196.15	40.82
Lentils	25.26	9.65	38.20	109.08	48.21	44.20
Vetch	30.85	9.94	32.22	418.01	153.83	36.80
Neug	103.08	19.54	18.96	370.32	74.48	20.11
Linseed	65.06	14.34	22.04	380.72	108.75	28.57
Rapeseed	**	**	**	**	**	**
Groundnuts	**	**	**	**	**	**
Sunflower	**	**	**	**	**	**
Sesame	1.43	0.63	43.85	**	**	**
Fenugreek	8.84	2.99	33.82	47.23	17.29	36.60

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION FOR MAJOR CROPS IN SOMALIE REGION.

TYPE OF CROP	AREA ('000 ht)	S.E ('000)	C.V (%)	PRODUCTION ('000 qt)	S.E ('000)	C.V (%)
Teff	**	**	**	**	**	**
Barley	4.23	1.07	25.38	17.28	4.50	26.05
Wheat	5.22	1.50	28.82	44.98	14.36	31.92
Maize	20.55	6.95	33.82	197.11	70.96	36.00
Sorghum	29.15	6.87	23.57	163.22	48.49	29.71
Millet	–	–	–	–	–	–
Oats	**	**	**	**	**	**
Horse Beans	–	–	–	–	–	–
Field Peas	**	**	**	**	**	**
Haricot Beans	**	**	**	**	**	**
Chick peas	**	**	**	NS	–	–
Lentils	**	**	**	NS	–	–
Vetch	–	–	–	–	–	–
Neug	–	–	–	–	–	–
Linseed	**	**	**	**	**	**
Rapeseed	–	–	–	–	–	–
Groundnuts	–	–	–	–	–	–
Sunflower	–	–	–	–	–	–
Sesame	–	–	–	–	–	–
Fenugreek	**	**	**	NS	–	–

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION FOR MAJOR CROPS IN BENSHANGUL–GUMEZ REGION.

TYPE OF CROP	AREA ('000 ht)	S.E ('000)	C.V (%)	PRODUCTION ('000 qt)	S.E ('000)	C.V (%)
Teff	16.15	4.21	26.04	97.03	36.80	37.93
Barley	**	**	**	**	**	**
Wheat	**	**	**	**	**	**
Maize	20.55	3.75	18.24	400.01	70.53	17.63
Sorghum	35.07	7.54	21.50	388.84	80.41	20.68
Millet	7.15	3.21	44.81	78.69	36.54	46.43
Oats	**	**	**	**	**	**
Horse Beans	**	**	**	**	**	**
Field Peas	**	**	**	**	**	**
Haricot Beans	**	**	**	**	**	**
Chick peas	**	**	**	**	**	**
Lentils	**	**	**	**	**	**
Vetch	–	–	–	–	–	–
Neug	7.81	2.03	25.98	26.31	6.58	25.02
Linseed	0.12	0.06	47.80	**	**	**
Rapeseed	–	–	–	–	–	–
Groundnuts	**	**	**	9.14	4.50	29.24
Sunflower	–	–	–	–	–	–
Sesame	**	**	**	**	**	**
Fenugreek	**	**	**	NS	–	–

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION FOR MAJOR CROPS IN S.N.N.P.R.

TYPE OF CROP	AREA ('000 ht)	S.E ('000)	C.V (%)	PRODUCTION ('000 qt)	S.E ('000)	C.V (%)
Teff	160.44	19.17	11.95	1413.67	212.37	15.02
Barley	52.32	9.47	18.09	601.67	129.78	21.57
Wheat	58.26	13.91	23.88	1105.68	333.33	30.15
Maize	194.65	23.28	11.96	3596.53	568.55	15.81
Sorghum	140.37	25.48	18.15	1677.62	378.39	22.56
Millet	3.51	1.43	40.73	**	**	**
Oats	**	**	**	**	**	**
Horse Beans	40.60	6.43	15.85	459.41	84.67	18.43
Field Peas	22.26	4.30	19.33	190.03	42.21	22.21
Haricot Beans	19.95	3.64	18.23	137.29	31.57	23.00
Chick peas	3.60	1.46	40.56	15.01	6.83	45.53
Lentils	0.66	0.26	39.45	**	**	**
Vetch	**	**	**	NS	–	–
Neug	–	–	–	–	–	–
Linseed	**	**	**	**	**	**
Rapeseed	–	–	–	–	–	–
Groundnuts	**	**	**	NS	–	–
Sunflower	**	**	**	NS	–	–
Sesame	**	**	**	NS	–	–
Fenugreek	**	**	**	NS	–	–

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION FOR MAJOR CROPS IN GAMBELA REGION.

TYPE OF CROP	AREA ('000 ht)	S.E ('000)	C.V (%)	PRODUCTION ('000 qt)	S.E ('000)	C.V (%)
Teff	–	–	–	–	–	–
Barley	–	–	–	–	–	–
Wheat	–	–	–	–	–	–
Maize	5.16	1.42	27.49	147.89	52.55	35.54
Sorghum	4.44	1.16	26.18	78.13	22.34	28.60
Millet	**	**	**	NS	–	–
Oats	–	–	–	–	–	–
Horse Beans	–	–	–	–	–	–
Field Peas	–	–	–	–	–	–
Haricot Beans	**	**	**	**	**	**
Chick peas	–	–	–	–	–	–
Lentils	–	–	–	–	–	–
Vetch	–	–	–	–	–	–
Neug	–	–	–	–	–	–
Linseed	–	–	–	–	–	–
Rapeseed	–	–	–	–	–	–
Groundnuts	0.15	0.06	41.11	0.26	0.10	39.22
Sunflower	–	–	–	–	–	–
Sesame	**	**	**	**	**	**
Fenugreek	–	–	–	–	–	–

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION FOR MAJOR CROPS IN HARARI REGION.

TYPE OF CROP	AREA ('000 ht)	S.E ('000)	C.V (%)	PRODUCTIO ('000 qt)	S.E ('000)	C.V (%)
Teff	–	–	–	–	–	–
Barley	**	**	**	**	**	**
Wheat	0.12	0.06	46.14	**	**	**
Maize	0.68	0.13	19.13	7.81	1.82	23.26
Sorghum	2.84	0.32	11.13	30.20	4.25	14.08
Millet	–	–	–	–	–	–
Oats	**	**	**	**	**	**
Horse Beans	–	–	–	–	–	–
Field Peas	–	–	–	–	–	–
Haricot Beans	**	**	**	**	**	**
Chick peas	**	**	**	**	**	**
Lentils	–	–	–	–	–	–
Vetch	–	–	–	–	–	–
Neug	–	–	–	–	–	–
Linseed	–	–	–	–	–	–
Rapeseed	–	–	–	–	–	–
Groundnuts	0.69	0.28	41.17	6.36	2.90	45.65
Sunflower	–	–	–	–	–	–
Sesame	–	–	–	–	–	–
Fenugreek	–	–	–	–	–	–

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION FOR MAJOR CROPS IN ADDIS ABABA REGION.

TYPE OF CROP	AREA ('000 ht)	S.E ('000)	C.V (%)	PRODUCTION ('000 qt)	S.E ('000)	C.V (%)
Teff	4.57	0.64	13.97	62.50	10.38	16.61
Barley	0.02	0.01	49.47	0.22	0.09	40.75
Wheat	3.16	0.46	14.70	54.79	9.28	16.93
Maize	–	–	–	–	–	–
Sorghum	0.09	0.04	42.08	1.42	0.62	43.85
Millet	–	–	–	–	–	–
Oats	–	–	–	–	–	–
Horse Beans	0.13	0.04	32.56	1.29	0.55	42.79
Field Peas	0.06	0.02	38.17	**	**	**
Haricot Beans	–	–	–	–	–	–
Chick peas	**	**	**	11.04	3.58	32.40
Lentils	0.51	0.11	21.55	4.17	0.95	22.82
Vetch	0.69	0.13	18.61	10.91	1.93	17.69
Neug	–	–	–	–	–	–
Linseed	–	–	–	–	–	–
Rapeseed	–	–	–	–	–	–
Groundnuts	–	–	–	–	–	–
Sunflower	–	–	–	–	–	–
Sesame	–	–	–	–	–	–
Fenugreek	0.08	0.03	38.96	0.83	0.41	49.17

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION FOR MAJOR CROPS IN DIRE DAWA REGION.

TYPE OF CROP	AREA ('000 ht)	S.E ('000)	C.V (%)	PRODUCTION ('000 qt)	S.E ('000)	C.V (%)
Teff	–	–	–	–	–	–
Barley	–	–	–	–	–	–
Wheat	–	–	–	–	–	–
Maize	0.23	0.08	34.91	NS	–	–
Sorghum	7.16	2.17	30.35	43.29	9.55	22.05
Millet	–	–	–	–	–	–
Oats	–	–	–	–	–	–
Horse Beans	–	–	–	–	–	–
Field Peas	–	–	–	–	–	–
Haricot Beans	**	**	**	NS	–	–
Chick peas	–	–	–	–	–	–
Lentils	–	–	–	–	–	–
Vetch	–	–	–	–	–	–
Neug	–	–	–	–	–	–
Linseed	–	–	–	–	–	–
Rapeseed	–	–	–	–	–	–
Groundnuts	–	–	–	–	–	–
Sunflower	–	–	–	–	–	–
Sesame	–	–	–	–	–	–
Fenugreek	–	–	–	–	–	–