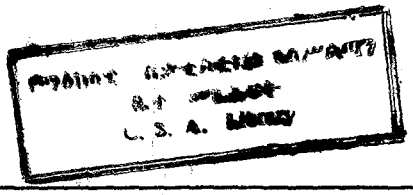
03/02/91

THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
CENTRAL STATISTICAL AUTHORITY



AGRICULTURAL SAMPLE SURVEY
1997/98 (1990 E.C.)

VOLUME I

REPORT ON

AREA AND PRODUCTION FOR MAJOR CROPS

(PRIVATE PEASANT HOLDINGS, MEHER SEASON)

ADDIS ABABA
JUNE 1998

---

189 **STATISTICAL BULLETIN** **189**

PREPARED AND PRINTED BY
CENTRAL STATISTICAL AUTHORITY
P.O.BOX 1143 ADDIS ABABA
Tel. 55-30-11

Content

		Page
PART I.	**INTRODUCTION AND OBJECTIVES OF THE SURVEY ....**	1
1.	INTRODUCTION.....	1
2.	OBJECTIVES OF THE SURVEY.....	2
PART II.	**SURVEY METHODOLOGY, DATA COLLECTION AND PROCESSING**	3
1.	SCOPE COVERAGE AND CONTENT OF THE SURVEY	3
2.	CONCEPTS AND DEFINITIONS.....	5
3.	SAMPLE DESIGN.....	7
4.	FIELD ORGANIZATION.....	9
5.	TRAINING OF FIELD STAFF.....	9
6.	METHOD OF DATA COLLECTION.....	10
7.	DATA PROCESSING	11
	a. EDITING, CODING AND VERIFICATION.....	11
	b. DATA ENTRY, CLEANING AND TABULATION.....	11
PART III.	**SUMMARY OF THE SURVEY RESULTS**.....	12
1.	AREA AND PRODUCTION	12
2.	SPECIAL SUMMARY OF CROP DAMAGE ASSESSMENT	20

Page

APPENDIX I- ESTIMATION PROCEDURE OF TOTAL, RATIO AND SAMPLING ERROR..... 88

APPENDIX II- STANDARD ERROR AND COEFFICIENT OF VARIATIONS..... 93

APPENDIX III- 100

- NUMBER OF EAs SAMPLED AND COVERED
- NUMBER OF HOUSEHOLD EXPECTED TO BE COVERED AND ACTUALLY COVERED
- NUMBER OF PARCELS AND FIELDS MEASURED
- NUMBER OF CROP CUTTINGS CONDUCTED.

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

PART I

INTRODUCTION AND OBJECTIVES OF THE SURVEY

1. INTRODUCTION

In a country where the economy is predominantly agrarian, agricultural information is essential for policy makers and other users. In this regard, the Central Statistical Authority (CSA) has exerted every effort to provide users and decision makers with reliable and timely agricultural data.

This report presents the 1997/98(1990 E.C.) Agricultural Sample Survey (AgSS) area and production survey results for the major crops produced within the private peasant holdings sector of the economy. The report includes the objectives of this annual survey while outlining: coverage and content of the survey, sample design, field organization, training of field staff, method of data collection, as well as the survey estimates of area, production and yield of major crops. Estimation procedures and formulations for estimates of totals, ratios, and variance are presented in Appendix I. Estimates of the standard errors with the corresponding coefficient of variations for area and production for the major crops, the number of agricultural households covered, parcels and fields measured, and number of crop cuttings completed are presented in Appendix II and Appendix III.

2. OBJECTIVES OF THE SURVEY

The general objective of CSA's Agricultural Sample Survey (AgSS) is to collect basic quantitative information on the country's agriculture that is considered essential for development planning, socio-economic policy formulation, food assistance, etc. The AgSS is composed of four components: a forecast survey, a Meher season survey, a livestock survey, and a survey of the Belg season crop area and production.

The objectives of the Meher season area and production survey and included in this report are estimates of the total cultivated land area and yield per hectare of major crops (temporary). Companion reports are published separately with estimates of land utilization and quantity of agricultural inputs applied by type for the Meher and Belg seasons. A special study was conducted in Harari region designed to provide high precision estimates at the farmer's association level (a one hundred percent sample of primary sampling units at the first-stage of sampling), a sub-sample of sixty-five households at the second-stage, and published as a separate report. In cooperation with the National Fertilizer Industry Agency (N.F.I.A.) the 1997/98 AgSS incorporated additional data collection for making baseline estimates of fertilizer usage which are being published also in a separate report. All reports are based on the private peasant holdings in sedentary areas of the nation, further subdivided by regions and zones.

PART II

SURVEY METHODOLOGY, DATA COLLECTION AND PROCESSING

1. SCOPE, COVERAGE AND CONTENT OF THE SURVEY.

The 1997/98 (1990 E.C.) annual Agricultural Sample Survey used a sampling frame which was designed to cover the sedentary rural agricultural population in all regions of the country (urban and nomadic areas were not included in the survey). Illustrated in Table A is a break down of the sample distribution as expressed by regions, zones and weredas. A total of 56 zones and 409 weredas were actually covered by the survey.

The lowest level sampling unit used for this survey is defined as an enumeration area (EA) as identified for the 1994 Population Census. For the 1997/98 AgSS a total of 1380 enumeration areas were selected from all regions of the country. Due to various reasons, 31 of them were incompletely enumerated which resulted in the survey actually covering 1349 enumeration areas(EAs). From each of the selected EAs a representative sample of 40 agricultural households were selected to represent the agricultural population of the sampled EA.

Of these 40 agricultural households, the first 25 were used for obtaining information on area under crops, Meher and Belg season production of crops, land utilization, agricultural practices, crop damage, and quantity of agricultural inputs used. It is important to note that of the total 40 agricultural households sampled in the selected EAs, data on crop cutting were collected for only the 15 households (11^{th} -25^{th} households selected).

Table A. AREAL COVERAGE OF THE 1997/98 AGRICULTURAL SAMPLE SURVEY

REGION	NUMBER OF ZONES			NUMBER OF WEREDAS	
	TOTAL	ZONES SAMPLED FOR THE SURVEY	NOT COVERED BY THE SURVEY	SAMPLED FOR THE SURVEY	ACTUAL NUMBER OF WEREDAS COVERED BY THE SURVEY
TIGRAY	4	4	-	34	31
AFAR[1]	5	3	2	8	7
AMHARA	11	10	1	93	92
OROMIYA	12	12	-	174	171
SOMALIE[2]	9	3	6	9	9
BENSHANGUL-GUMEZ	3	3	-	20	15
S.N.N.P.R.	14	14	-	74	72
GAMBELA	4	3	1	5	5
HARARI	1	1	-	1	1
A. ABABA[3]	6	2	4	5	5
DIRE DAWA	1	1	-	1	1
TOTAL	70	56	14	424	409

Note

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

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

3- 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

2. CONCEPTS AND DEFINITIONS.

In order to collect standardized data of acceptable quality the same concepts and definitions must be used by all field enumerators during data collection. Below are defined some of the more important concepts and definitions used for the survey:

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 in geographical 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 makes the major decision regarding the utilization of the available resources. He has primary 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 others, 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 legal entity by one person alone, or with others without regard to management, organization, size or location.

Household: A household may be either;

a) a one person household, that is a person who makes provisions for his own 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 provisions for food or other essentials of 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 combination 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 or mixed crops..

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

Belg Season Crop: any crop harvested during the months of March (Megabit) to August (Nehase).

Temporary Crops: Temporary crops are crops which are grown under a cycle of less than one year, sometimes only a few months with an objective to be sown or replanted again for additional production following the current harvest. Continuously grown crops planted in rotation are also considered temporary crops since each is harvested and destroyed by ploughing in preparation for each successive crop.

Permanent Crops: Crops which are grown and occupy land for a long period of time, not requiring replanting for several years after each harvest, are considered permanent crops. All fruit trees (i.e. oranges, mandarin, banana, etc.) and trees for beverages (i.e. coffee, tea, etc.) are considered permanent crops, but meadows and pastures are excluded.

3. SAMPLE DESIGN.

A two-stage stratified sample design is used for the 1997/98 (1990 E.C.) Annual Agricultural Sample Survey. All regions except Harari, Addis Ababa, Dire Dawa and Gambella are broken into zones and treated as strata/reporting levels for survey summarization purposes, but for the four mentioned regions, the

reporting levels are the regions themselves. The sample design first-stage consists of primary sampling units (PSUs) in all strata which are enumeration areas (EAs). The second-stage sampling units are agricultural households selected as the secondary level sampling units. The survey questionnaires are administered to all agricultural holders in the sampled agricultural households.

Based on cost and field enumeration considerations, a fixed number of sample EAs were allocated to each stratum/ reporting level taking into consideration the desired precision of the estimates and number of households per stratum. The overall sample number of EAs in a stratum was proportionately allocated to zones/special weredas within stratum based on their number of households. From within each Zone/Special Wereda sample EAs were selected with probability proportional to size, size being the total number of households identified for EAs as obtained from the 1994 Population Census. From each sample EA, 40 agricultural households were sampled systematically without replacement from a newly enumerated list of agricultural households of which the first 25 agricultural households were used to obtain information on crop planted area and crop production of both the Meher and Belg seasons. However, livestock information was collected from the full sample of 40 selected agricultural households.

Information was collected from all twenty-five households except for crop-cutting data which is collected from only the last 15 agricultural households, starting from the 11th selected agricultural households. Data is collected on separate questionnaires from each holder within these twenty-five sampled households.

The estimation formulation procedures for totals and ratios of the agricultural variables estimated and the measure of precision for area and production are presented in *Appendix I and II.*

4. FIELD ORGANIZATION.

CSA Branch Statistical Office heads, field supervisors and enumerators, other support staff and drivers were all involved in the conduct of the AgSS area and production survey data collection effort. To accomplish the data collection all field enumerators were equipped with the necessary survey equipment (i.e. compass, protractor, ruler, measuring tape, balance scale, poles, ropes, sample bags,...etc.) at the completion of training. To assist with the field work and data collection activities all availabe four-wheel drive vehicles were used for supervision and collection of completed questionnaires.

5. TRAINING OF FIELD STAFF.

The field staff training program was carried out in two stages. The first-stage consisted of trainees from the head office, Branch Statistical Office heads and some of the field supervisors being given training for one week at CSA's headquarters complex in Addis Ababa. Many of those trained in the first-stage conducted similar training for field supervisors and enumerators for 10 days in all of CSA's 15 branch offices which are distributed around the country. During this second-stage training, the field staff were given detailed classroom instruction on the objectives and uses of the AgSS, concepts and definitions of terms used, the method of area measurement, method of crop cutting, as well as correct

interviewing procedures,... etc. The enumerators' training also included a field practice to reinforce the concepts discussed in the classroom with regard to field measurement and crop cutting data collection.

6. METHOD OF DATA COLLECTION.

Data for the AgSS area and production survey were recorded on questionnaires using both subjective and objective enumeration methods. Information on agricultural practices (application of fertilizer, pesticide, use of improved seeds and irrigation) were collected subjectively by interviewing the holders located in each sampled household.

The objective measurement procedures for area measurements were carried out for the 25 selected households from each sampled EA. This required that all separate fields by land area utilization be physically measured using compass and measuring tape. In addition, for all fields under temporary crops of each holder of the last 15 sampled households, each was classified by type of crop and for selected major crops a field was randomly selected for each crop for crop cutting to be performed. Crop cutting procedures consist of demarcation of a sixteen meter square plot randomly located in the selected field for which the crop in the field is to be harvested. Following the field enumerator's harvest of the crop cutting plot and threshing, the crop is stored in bags with identification information (i.e. name of the crop, holder number, parcel and field number). The crop placed in the bag is weighed immediately (green weight) after threshing, and weighed again after two weeks of drying to simulate normal holder harvesting and drying practices. The green and dry weights are recorded on the respective questionnaire.

7. DATA PROCESSING

a. EDITING, CODING AND VERIFICATION.

To insure the quality of the collected survey data an editing, coding and verification instruction manual was written, and sixty-five editors, coders and verifiers were trained for two days to edit, code and verify the data using the forementioned manual as a reference and teaching aid.

The enumerator completed questionnaires were edited, coded and later verified by supervisors on a 100% basis before the questionnaires were sent to the data processing unit for data entry. The editing, coding and verification of all questionnaires was completed in thirty eight days.

b. DATA ENTRY, CLEANING AND TABULATION.

Before starting data entry professional staff of Agricultural Statistics Department of Central Statistical Authority prepared edit specifications for use on personal computers utilizing the Integrated Microcomputer Processing System (IMPS) software for data consistency checking purposes.

The data on the coded questionnaires were then entered into the IMPS software on personal computers. The data was then checked and cleaned using the edit specifications prepared earlier for this purpose. Thirty data encoders were involved in this total process and it took thirty-three days to complete the job. Finally, tabulation was done on personal computers to produce results as indicated in the tabulation plan.

PART III

SUMMARY OF THE SURVEY RESULTS

1. AREA AND PRODUCTION

The result for area, production and yield of major crops (temporary or annual) is presented in this publication. The twenty major crops estimated exclude cash crops (coffee, chat,...etc.) , fruits, vegetables, enset and other root crops. Consequently, the total area under major temporary crops is estimated to be about 6.8 million hectares (See Table B) at national level for the Meher season of 1997/98 (1990 E.C.).

Out of the total crop area, cereals accounted for about 5.6 million hectares (81.79%), while pulses and other crops(like neug, linseed, rapeseed, ground nuts, sunflower, sesame and fenugreek) accounted for 0.84 million hectares (12.23%) and 0.41 million hectares (5.99%), respectively.

Looking at specific crops, the largest area, or about 1.75 million hectares, is reported for teff followed by maize and sorghum. For details refer to Table 1.

Table B. Summary of Area, Production and Yield of Major Crops for the year 1997/98 (1990 E.C.)

Type of crop	Area in million hectares		Production in million quintals		Yield per hectare
	Number	Percent	Number	Percent	
CEREALS	5.60	81.79	64.99	88.27	11.60
PULSES	0.84	12.23	6.80	9.24	8.12
OTHER CROPS	0.41	5.99	1.84	2.49	4.48
TOTAL	6.85	100.00	73.63	100.00	10.75

The total production estimate at the national level is about 73.63 million quintals, of which cereals accounted for 64.99 million quintals, pulses accounted for about 6.80 million quintals, and other crops (mentioned above) totalled to 1.84 million quintals (See Table B).

The survey results also indicate that the yield of cereals was 11.60 quintals per hectare, the yield of pulses was 8.12 quintals per hectare and the yield of other crops (mentioned above) was 4.48 quintals per hectare. In Table 1 it is also shown that the highest yield is reported for maize, which was 17.53 quintals per hectare, and the lowest is for nueg, and sunflower at 3.77 quintals each per hectare.

As presented in Table 2, total area cultivated, total production, and the average yield per hectare have decreased by 15.15%, 23.67% and 10.05 %, respectively compared to last crop season, i.e. 1996/97.

Table 1. Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

National

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	5,601.88	81.79	64,987.83	88.27	11.60
Teff	1,747.19	25.51	13,073.48	17.76	7.48
Barley	681.95	9.96	7,863.95	10.68	11.53
Wheat	787.72	11.50	11,067.85	15.03	14.05
Maize	1,100.61	16.07	19,288.51	26.20	17.53
Sorghum	954.74	13.94	10,697.40	14.53	11.20
Millet	289.74	4.23	2,587.05	3.51	8.93
Oats	39.93	.58	409.60	.56	10.26
Pulses	837.61	12.23	6,801.92	9.24	8.12
Horse Beans	266.30	3.89	2,596.67	3.53	9.75
Field Peas	119.88	1.75	927.25	1.26	7.73
Haricot Beans	92.19	1.35	548.46	.74	5.95
Chick Peas	169.97	2.48	1,371.33	1.86	8.07
Lentils	47.09	.69	310.79	.42	6.60
Vetch	142.17	2.08	1,047.44	1.42	7.37
Others	410.01	5.99	1,836.96	2.49	4.48
Neug	195.22	2.85	735.79	1.00	3.77
Linseed	134.64	1.97	663.46	.90	4.93
Rapeseed	12.67	.18	86.94	.12	6.86
Ground Nuts	11.02	.16	77.76	.11	7.06
Sunflower	3.33	.05	12.57	.02	3.77
Sesame	23.62	.34	98.25	.13	4.16
Fenugreek	29.51	.43	162.19	.22	5.50
All Crops	6,849.50	100.00	73,626.71	100.00	10.75

TABLE 2. Estimates of 1995/96 and 1996/97 Area, Production and Yield of Major Crops for Private Peasant Holdings in Ethioia (Meher Season)

CROP	TOTAL AREA('000 HA)			TOTAL PRODUCTION('000 QT.)			YIELD(QT/HA)		
	1996/97 (1989 E.C.)	1997/98 (1990 E.C.)	% CHANGE	1996/97 (1989 E.C.)	1997/98 (1990 E.C.)	% CHANGE	1996/97 (1989 E.C.)	1997/98 (1990 E.C.)	% CHANGE
CEREALS	6,688.56	5,601.88	-16.25	86,293.32	64,987.83	-24.69	12.90	11.60	-10.07
TEFF	2,167.77	1,747.19	-19.40	20,018.93	13,073.48	-34.69	9.23	7.48	-18.93
BARLEY	697.67	681.95	-2.25	7,423.85	7,863.95	5.93	10.64	11.53	8.38
WHEAT	772.23	787.72	2.01	10,015.90	11,067.85	10.50	12.97	14.05	8.33
MAIZE	1,316.87	1,100.61	-16.42	25,320.03	19,288.51	-23.82	19.23	17.53	-8.86
SORGHUM	1,399.95	954.74	-31.80	20,073.46	10,697.40	-46.71	14.34	11.20	-21.87
MILLET	290.66	289.74	-0.32	2,961.65	2,587.05	-12.65	10.19	8.93	-12.38
OATS	43.41	39.93	-8.02	479.49	409.60	-14.58	11.05	10.26	-7.17
PULSES	905.35	837.61	-7.48	8,026.28	6,801.92	-15.25	8.86	8.12	-8.35
HORSE BEANS	329.31	266.30	-19.13	3,206.76	2,596.67	-19.03	9.74	9.75	0.11
FIELD PEAS	158.11	119.88	-24.18	1,063.03	927.25	-12.77	6.72	7.73	15.10
HARICOTBEANS	112.81	92.19	-18.28	947.64	548.46	-42.12	8.40	5.95	-29.18
CHICK PEAS	147.90	169.97	14.92	1,264.61	1,371.33	8.44	8.55	8.07	-5.64
LENTILS	52.81	47.09	-10.83	344.87	310.79	-9.88	6.43	6.60	2.64
VETCH	104.41	142.17	36.17	1,199.36	1,047.44	-12.67	11.49	7.37	-35.88
OTHERS	478.45	410.01	-14.30	2,132.79	1,836.96	-13.87	4.46	4.48	0.45
NEUG	250.52	195.22	-22.07	834.54	735.79	-11.83	3.33	3.77	13.18
LINSEED	148.17	134.64	-9.13	676.23	633.46	-6.32	4.56	4.70	3.18
RAPESEED	21.40	15.67	-26.78	**	86.94	**	**	5.55	**
GROUND NUTS	17.43	11.02	-36.78	125.28	77.76	-37.93	7.19	7.06	-1.86
SUNFLOWER	5.17	3.33	-35.59	**	12.57	**	**	3.77	**
SESAME	18.50	23.62	27.68	72.76	98.25	35.03	3.93	4.16	5.84
FENUGREEK	17.26	29.71	72.13	100.31	162.19	61.69	5.80	5.46	-5.88
ALL CROPS	8,072.36	6,849.50	-15.15	96,452.39	73,626.71	-23.67	11.95	10.75	-10.05

The 1997/98 AgSS sample design increased the number of sampling units to produce more accurate survey estimates at the regional and zonal levels. Comparing the AgSS estimates at the regional level the data in Table 3 illustrates the diversity of Ethiopian agricultural production.

In the Tigray Region, 514 thousand hectares of land have been alloted to grow the twenty major crops by private holders in 1997/98, an increase of 7% from the previous year. Production of the twenty major crops was down by 22% compared to 1996/97. The 1997/98 estimate of total major crop production of Tigray Region accounted for 6.25% of the total national crop production. Production was down due to adverse weather with crop damage causing the yield at 8.95 qt/ha which is a decline of 27% compared with that of the previous year. The land area under the 20 major crops constitute 7.5 % of the total land area under similar crops at country level.

In the Afar Region 16 thousand hectares of land were cultivated in order to grow the twenty major crops by private holders in 1997/98. The production showed a decrease of 47% from the previous year. Production of the twenty major crops was down by 71% compared to 1996/97 and accounted for only 0.02% of the total crop production at country level. Production was down due to adverse weather with crop damage causing the yield at 7.27 qt/ha which is a decline of 45% compared with that of the previous year.

The Amhara region is the second largest in both area planted and production in 1997/98 with 2.5 million hectares of land cultivated for growing the twenty major crops by private holders. This indicated a decrease of 20% from the previous year. This area accounted for 36% of the national total area planted.

Table 3. Estimates of 1996/97 and 1997/98 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)			YIELD(QT/HA)		
	1996/97 (1989 E.C.)	1997/98 (1990 E.C.)	% CHANGE	1996/97 (1989 E.C.)	1997/98 (1990 E.C.)	% CHANGE	1996/97 (1989 E.C.)	1997/98 (1990 E.C.)	% CHANGE
TIGRAY	481.54	513.72	6.68	5,906.00	4,599.81	-22.12	12.26	8.95	-27.00
AFAR	29.76	15.74	-47.11	393.06	114.44	-70.88	13.21	7.27	-44.95
AMHARA	3,081.22	2,457.83	-20.23	31,426.58	21,788.61	-30.67	10.20	8.86	-13.08
OROMIYA	3,625.48	3,096.94	-14.58	47,852.23	37,703.02	-21.21	13.20	12.17	-7.76
SOMALI	50.91	51.49	1.14	369.55	506.71	37.12	7.26	9.84	35.57
BENSHANGULE-GUMEZ	110.45	133.39	20.77	1,164.11	1,520.80	30.64	10.54	11.40	8.17
S.N.N.P.R.	666.35	551.58	-17.22	9,009.71	6,973.06	-22.61	13.52	12.64	-6.50
GAMBELA	5.23	12.81	144.93	90.83	262.66	189.18	17.37	20.50	18.06
HARARI	6.01	4.44	-26.12	58.08	32.96	-43.25	9.66	7.42	-23.18
ADDIS ABABA	9.70	7.01	-27.73	116.18	90.93	-21.73	11.98	12.97	8.30
DIRE DAWA	5.70	4.55	-20.18	66.07	33.72	-48.96	11.59	7.41	-36.06
ALL REGIONS	8,072.35	6,849.50	-15.15	96,452.40	73,626.72	-23.67	11.95	10.75	-10.04

Production of the twenty major crops was down 31% from 1996/97 and nearly this production accounted for 30% of the crop production at country level. Production was down due to adverse weather with crop damage causing the yield at 8.86 qt/ha to decline 13% from the previous year.

The Oromiya Region is the largest in both area planted and production in 1997/98 and 3.1 million hectares of land were cultivated to grow the twenty major crops by private holders. This shows a decrease of 15% from the previous year. This area comprised 45% of the total crop area at country level and accounts for over half (51%) of the total crop production, at country level. The production in Oromiya of the twenty major crops was down by 21% compared to 1996/97. Whereas weather damage was pervasive in most of the major growing regions, this lower production was partly due to a reduction in planted area and partly due to crop damage causing the yield at 12.17 qt/ha which is a decline of 13% compared with that of the previous year.

Somali and Benshangule-Gumez Regions both showed an increase in planted area of 21% and 1.1 %, respectivly compared with 1996/97. These two regions and Gambela Region have shown substantial increase in production this year. This observed increase was due to a combination of increased area planted and higher yield compared with the previous year.

The S.N.N.P. Region cultivated 552 thousand hectares of land and is the third largest major crop-growing region in the country, accounting for 8% of the total area planted at country level compared with 1996/97. This planted area estimate decreased by 17%.

The three remaining Regions of Harari, Addis Ababa, and Dire Dawa experienced similar reductions in planted area, down by 26%, 28%, and 20%, respectively compared with 1996/97 Meher crop year. Yield was reduced by 23% in Harari and 36% in Dire Dawa compared with that of the previous year. Detailed estimates at regional as well as zonal level are given in Tables 4 through 14.

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) with caution.

3. Eventhough area is reported for some crops at some reporting levels, when no production data is available in such cases they are designated as "NS", meaning not stated.

4. For those items in the table where a "-" appears, it implies that no data was obtained from the sample units from which an estimate could be made.

2. SPECIAL SUMMARY OF CROP DAMAGE ASSESSMENT

This report is the first of its kind dealing with the summary of crop damage estimates in the series of area and production reports of the Annual Agricultural Sample Surveys' ever published.

Information on the type and extent/amount of crop damage is collected subjectively by interviewing holders in the sampled agricultural households. The interview focused on each of the holders' fields sampled for crop cutting exercise on which 4m x 4m plot is demarcated and the crop in the plot is harvested. The yield obtained from these sampled plots are used to estimate production by type of crop at the desired reporting levels. Similarly, the type and the extent of crop damage information was collected from sampled fields of crop cutting exercise plots and used to estimate the extent of crop damage by type at national level. In this year's area and production report, CSA supplements the section on special summary of crop damage to illustrate the reasons for the unusual lower yield and/or production of the 1997/98 (1990 E.C.) Meher season crop harvest.

Hence, an attempt has been made to summarize crop damage estimates by type at national level for five selected cereal crops (namely, Teff, Wheat, Barley, Maize and Sorghum), all other crops combined and for the total of all crops. The objective of summarizing the crop damage estimates is mainly to illustrate the poor performance of this year's meher season crop harvest by investigating yield estimates of damaged area by type of damage and crops affected; and by comparing the effect of the damage on the estimated yield and/or production obtained from damaged area, with that of undamaged area of the same year as well as that of the last year's overall estimates.

The data in Table 3.1 show the impact of the crop damage on the 1997/98 (1990 E.C.) estimates of area, production and yield of all major crops. As it is indicated in the table, of the total area under all crops of this year Meher season harvest, it is reported that 33% of the total area under all crops was damaged due to "too much rain", while additional 13 % of the total area was damaged due to "Shortage of rain". On the other hand, damage caused by "insects and pests" has reduced all crop yield estimate from 12.40 qt/ha on undamaged crop area to 9.19 qt/ha (26 %). Similarly, damage due to "shortage of rain", "too much rain" and "others" have reduced all crop yield estimate by 3.33 qt/ha (27%), 2.32 qt/ha (19%) and 2.07 qt/ha (17 %), respectively. It should be noted that only 34 % of the total area, which accounts for 39 % of the total crop production of 1997/98 (1990 E.C.) is reported to be free from any type of crop damage.

Hence, the overall crop damage on this year production has lowered all crop yield estimate by 10 % when compared with that of 1996/97 (1989 E.C.) estimate. This lower yield estimate of all crops was mainly attributed due to crop damage caused by "too much rain", "shortage of rain" and "insect and pest infection" that prevailed in different parts of the country.

TABLE 3.1. ESTIMATES OF AREA, PRODUCTION AND YIELD FOR ALL CROPS BY CATAGORIES OF CROP DAMAGE FOR PRIVATE HOLDINGS 1997/98 (1990 E.C.)

CROP	REASON FOR CROP DAMAGE	AREA ('000 HA)	%	PRODUCTION (000 QT)	%	YIELD ('000QT/HA)	% CHANGE FROM NO DAMAGE
All crops	No damage	2335.40	34.10	28954.12	39.33	12.40	-
	Insect & pests	237.15	3.46	2179.21	2.96	9.19	-25.88
	Shortage of rain	891.32	13.01	8087.49	10.98	9.07	-26.81
	Too much rain	2256.56	32.94	22744.84	30.89	10.08	-18.70
	Others	1129.07	16.48	11661.05	15.84	10.33	-16.70
	Total	6849.50	100.0	73626.71	100.0	10.75	-

Furthermore, among the five major cereal crops Teff is hard hit by the unfavorable weather conditions that prevailed during the 1997/98 (1990 E.C.) Meher season. For instance, out of the total Teff area, nearly half, i.e. 49 % of the total area was damaged due to "too much rain", while the damage by "shortage of rain" has affected the area under Teff crop by 12 %. Only 21 % of the total area under Teff crop, however, reported undamaged.

Consquently, the Teff yield estimate obtained from the damaged area due to "shortage of rain" has nearly reduced the yield by about half, i.e. (46%), while 2.48 qt/ha (25 %) reduction of Teff yield was observed in area damaged due to "too much rain" compared to the undamaged area of Teff yield estimate (For the detail see Table 3.2).

As a result of the above mentioned damages caused by unfavourable wheather conditions of the 1997/98 (1990 E.C.) crop year, the overall teff yield estimate has been lowered by 21 % when compared with that of 1996/97 (1989 E.C.) estimate. Nevertheless, yield estimate of teff from undamaged area which is 9.73 qt/ha, is up by 5 % from that of last year's estimate.

TABLE 3.2 ESTIMATES OF AREA, PRODUCTION AND YIELD FOR TEFF BY CATAGORIES OF CROP DAMAGE FOR PRIVATE HOLDINGS 1997/98 (1990 E.C.)

CROP	REASON FOR CROP DAMAGE	AREA ('000 HA)	%	PRODUCTION (000 QT)	%	YIELD ('000QT/HA)	% CHANGE FROM NO DAMAGE
Teff	No damage	370.92	21.23	3608.03	27.60	9.73	-
	Insect & pests	29.12	1.67	217.90	1.67	7.48	-23.07
	Shortage of rain	212.73	12.18	1111.41	8.50	5.22	-46.29
	Too much rain	856.87	49.05	6208.09	47.49	7.25	-25.22
	Others	277.36	15.88	1928.06	14.75	6.95	-28.54
	Total	1747.00	100.0	13073.49	100.0	7.40	-

Wheat and barley are also affected by the unfavorable weather condition that prevailed in 1997/98 (1990 E.C.) Meher season harvest. Data in Table 3.3 present the impact of crop damage on the area, production and yield of wheat and barley in 1997/98 (1990 E.C.). As it is shown in the table, out of the total area under wheat and barley, 29 % and 36%, respectively are affected by "too much rain". As a result of this damage, the yield estimate is lowered by 4% for wheat and 1 % for barley when compared with that of yield estimates obtained from the undamaged area of these two cereal crops (Table 3.3).

On the other hand, yield estimates of wheat and barley obtained from the undamaged area under these crops, i.e. (44% of the total area under wheat and 39% of barley) are higher by 15% for wheat and 13% for barley compared with that of 1996/97 (1989 E.C.) yield estimates of these crops, respectively.

TABLE 3.3 ESTIMATES OF AREA, PRODUCTION AND YIELD FOR BARLEY AND WHEAT BY CATAGORIES OF CROP DAMAGE FOR PRIVATE HOLDINGS 1997/98 (1990 E.C.)

CROP	REASON FOR CROP DAMAGE	AREA ('000 HA)	%	PRODUCTION (000 QT)	%	YIELD ('000 QT/HA)	% change from no damage
Barely	No damage	301.61	44.23	3679.28	46.79	12.20	-
	Insect & pests	7.93	1.16	87.10	1.11	10.98	-9.96
	Shortage of rain	73.27	10.74	651.03	8.28	8.89	-27.16
	Too much rain	200.10	29.34	2410.71	30.66	12.05	-1.24
	Others	99.04	14.52	1035.83	13.17	10.46	-14.26
	Total	681.95	100.00	7863.95	100.00	11.53	
Wheat	No damage	306.43	38.90	4490.84	40.58	14.66	-
	Insect & pests	3.11	0.39	38.40	0.35	12.35	-15.75
	Shortage of rain	76.80	9.75	932.17	8.42	12.14	-17.18
	Too much rain	280.96	35.67	3963.30	35.81	14.11	-3.75
	Others	120.43	15.29	1643.14	14.85	13.64	-6.90
	Total	787.73	100.00	11067.85	100.00	14.00	-

Maize and Sorghum are the other two crops affected by the unusual weather conditions of the 1997/98 (1990 E.C.). As it is indicated in Table 3.4, approximately one third of the total area under each of these crops remained undamaged (i.e. 37 % and 38 % of the total area under maize and sorghum,

respectively). Moreover, as a result of crop damage caused by "shortage of rain" 18 % of area under Maize and 21 % of area under sorghum were severly affected. Likewise, the yield estimates of both crops have reduced by 4.25 qt/ha (i.e. 22 % and 33 % reduction of Maize and Sorghum yield, respectively) compared to the undamaged area yield estimates. Moreover, the damage caused by "too much rain" has also affected 22 % of the total area under Maize and Sorghum crops, however, it didn't affect the yield estimate of Maize, but reduced the yield of Sorghum by 12 %.

TABLE 3.4 ESTIMATES OF AREA, PRODUCTION AND YIELD FOR MAIZE AND SORGHUM BY CATAGORIES OF CROP DAMAGE FOR PRIVATE HOLDINGS 1997/98 (1990 E.C.)

CROP	REASON FOR CROP DAMAGE	AREA ('000 HA)	%	PRODUCTION (000 QT)	%	YIELD ('000 QT/HA)	% CHANGE FORM NO DAMAGE
Maize	No damage	397.21	36.09	7511.66	38.94	18.91	-
	Insect & pests	37.30	3.39	492.51	2.55	13.20	-30.18
	Shortage of rain	194.71	17.69	2853.58	14.79	14.66	-22.50
	Too much rain	244.88	22.25	4646.31	24.09	18.97	0.33
	Others	226.50	20.58	3784.46	19.62	16.71	-11.65
	Total	1100.60	100.00	19288.52	100.00	17.52	-
Sorghum	No damage	355.70	37.26	4572.84	42.75	12.86	-
	Insect & pests	50.36	5.27	520.44	4.87	10.33	-19.61
	Shortage of rain	200.24	20.97	1723.74	16.11	8.61	-33.04
	Too much rain	205.77	21.55	2325.74	21.74	11.30	-12.08
	Others	142.68	14.94	1554.64	14.53	10.90	-15.25
	Total	954.75	100.00	10697.40	100.00	11.20	-

For other crops, the main damage is caused by "too much rain" which affected close to half a million hectares or 30% of the total area under these crops. Consequently, the damage caused by "too much rain" has also lowered the yield estimates of these crop by 1.34 qt/ha (16 %) from the yield estimates obtained on the undamaged area.

TABLE 3.5 ESTIMATES OF AREA, PRODUCTION AND YIELD FOR OTHER CROPS BY CATAGORIES OF CROP DAMAGE FOR PRIVATE HOLDINGS 1997/98 (1990 E.C.)

CROP	REASON FOR CROP DAMAGE	AREA ('000 HA)	%	PRODUCTION (000 QT)	%	YIELD ('000 QT/HA)	% CHANGE FROM NO DAMAGE
Other crops	No damage	603.92	38.29	5024.13	43.18	8.32	-
	Insect & pests	111.14	7.05	807.97	6.94	7.27	-12.61
	Shortage of rain	131.97	8.37	811.06	6.97	6.15	-26.13
	Too much rain	467.00	29.60	3260.41	28.02	6.98	-16.08
	Others	263.27	16.69	1731.97	14.89	6.58	-20.92
	Total	1577.30	100.00	11635.54	100.00	7.38	-

Table 3.6 Estimates of Area, Production and Yield for Major Crops by Catagories of Crop Damage for Private Peasant Holdings 1997/98 (1990 E.C.)

CROP	REASON FOR CROP DAMAGE	AREA ('000 HA)	PRODUCTION ('000 QT)	YIELD ('000 QT/HA)
TEFF	NO DAMAGE	370.92	3608.03	9.73
	INSECT & PESTS	29.12	217.90	7.48
	SHORTAGE OF RAIN	212.73	1111.41	5.22
	TOO MUCH RAIN	856.87	6208.09	7.25
	OTHERS	277.36	1928.06	6.95
BARLEY	NO DAMAGE	301.61	3679.28	12.20
	INSECT & PESTS	7.93	87.10	10.98
	SHORTAGE OF RAIN	73.27	651.03	8.89
	TOO MUCH RAIN	200.10	2410.71	12.05
	OTHERS	99.04	1035.83	10.46
WHEAT	NO DAMAGE	306.43	4490.84	14.66
	INSECT & PESTS	3.11	38.40	12.35
	SHORTAGE OF RAIN	76.80	932.17	12.14
	TOO MUCH RAIN	280.96	3963.30	14.11
	OTHERS	120.43	1643.14	13.64
MAIZE	NO DAMAGE	397.21	7511.66	18.91
	INSECT & PESTS	37.30	492.51	13.20
	SHORTAGE OF RAIN	194.71	2853.58	14.66
	TOO MUCH RAIN	244.88	4646.31	18.97
	OTHERS	226.50	3784.46	16.71
SORGHUM	NO DAMAGE	355.70	4572.84	12.86
	INSECT & PESTS	50.36	520.44	10.33
	SHORTAGE OF RAIN	200.24	1723.74	8.61
	TOO MUCH RAIN	205.77	2325.74	11.30
	OTHERS	142.68	1554.64	10.90
OTHER CROPS	NO DAMAGE	603.92	5024.13	8.32
	INSECT & PESTS	111.14	807.97	7.27
	SHORTAGE OF RAIN	131.97	811.06	6.15
	TOO MUCH RAIN	467.00	3260.41	6.98
	OTHERS	263.27	1731.97	6.58
ALL CROPS	NO DAMAGE	2335.40	28954.12	12.40
	INSECT & PESTS	237.15	2179.21	9.19
	SHORTAGE OF RAIN	891.32	8087.49	9.07
	TOO MUCH RAIN	2256.56	22744.84	10.08
	OTHERS	1129.07	11661.05	10.33
		6849.50	73626.71	10.75

Table 4. Estimates of Area, Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Tigray

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	468.37	91.17	4,284.34	93.14	9.15
Teff	119.34	23.23	699.77	15.21	5.86
Barley	52.93	10.30	419.14	9.11	7.92
Wheat	42.04	8.18	353.24	7.68	8.40
Maize	61.56	11.98	953.65	20.73	15.49
Sorghum	124.33	24.20	1,268.29	27.57	10.20
Millet	68.09	13.25	589.96	12.83	8.66
Oats	**	**	**	**	**
Pulses	30.36	5.91	246.27	5.35	8.11
Horse Beans	8.61	1.68	91.58	1.99	10.64
Field Peas	4.03	.78	39.84	.87	9.89
Haricot Beans	3.37	.66	**	**	**
Chick Peas	6.09	1.19	43.11	.94	7.08
Lentils	3.06	.60	23.24	.51	7.59
Vetch	5.19	1.01	35.31	.77	6.80
Others	14.99	2.92	69.20	1.50	4.62
Neug	2.84	.55	9.00	.20	3.17
Linseed	5.25	1.02	24.79	.54	4.72
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	-	-	-
Sesame	**	**	**	**	**
Fenugreek	**	**	**	**	**
All Crops	513.72	100.00	4,599.81	100.00	8.95

Table 4.1 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

West Tigray Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	173.84	94.25	1,975.82	97.23	11.37
Teff	40.70	22.07	318.63	15.68	7.83
Barley	**	**	-	-	**
Wheat	-	-	-	-	-
Maize	26.68	14.46	560.79	27.60	21.02
Sorghum	61.18	33.17	679.85	33.46	11.11
Millet	45.25	24.53	416.55	20.50	9.21
Oats	-	-	-	-	-
Pulses	3.84	2.08	20.45	1.01	5.33
Horse Beans	**	**	NS	-	-
Field Peas	**	**	NS	-	**
Haricot Beans	**	**	**	**	**
Chick Peas	2.75	1.49	20.16	.99	7.33
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	6.77	3.67	35.86	1.76	5.30
Neug	**	**	**	**	**
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	**	**	**	**	**
Fenugreek	-	-	-	-	-
All Crops	184.45	100.00	2,032.13	100.00	11.02

Table 4.2 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Central Tigray Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	133.09	90.29	1,135.40	92.37	8.53
Teff	38.90	26.39	210.67	17.14	5.42
Barley	9.79	6.64	85.19	6.93	8.70
Wheat	9.24	6.27	81.78	6.65	8.85
Maize	14.57	9.88	212.45	17.28	14.58
Sorghum	43.21	29.31	419.81	34.15	9.72
Millet	17.37	11.78	125.49	10.21	7.22
Oats	-	-	-	-	-
Pulses	9.20	6.24	71.63	5.83	7.79
Horse Beans	4.04	2.74	44.39	3.61	10.99
Field Peas	.24	.16	.94	.08	3.92
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	**	**	**
Lentils	.56	.38	2.58	.21	4.61
Vetch	**	**	**	**	**
Others	**	**	**	**	**
Neug	.53	.36	3.62	.29	6.83
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	**	**	**	**	**
Fenugreek	**	**	**	**	**
All Crops	147.41	100.00	1,229.24	100.00	8.34

Table 4.3 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

East Tigray Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	51.90	82.59	410.27	82.80	7.91
Teff	8.10	12.89	37.49	7.57	4.63
Barley	19.82	31.54	155.33	31.35	7.84
Wheat	12.09	19.24	93.06	18.78	7.70
Maize	4.67	7.43	45.37	9.16	9.72
Sorghum	3.11	4.95	37.55	7.58	12.07
Millet	4.04	6.43	41.17	8.31	10.19
Oats	**	**	**	**	**
Pulses	9.41	14.97	77.65	15.67	8.25
Horse Beans	**	**	**	**	**
Field Peas	1.52	2.42	13.33	2.69	8.77
Haricot Beans	**	**	**	**	**
Chick Peas	1.46	2.32	6.17	1.25	7.91
Lentils	.78	1.24	**	**	**
Vetch	2.98	4.74	**	**	**
Others	1.52	2.42	-	-	-
Neug	-	-	**	**	**
Linseed	1.38	2.20	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	NS	-	**
All Crops	62.84	100.00	495.52	100.00	7.89

Table 4.4 Estimates of Area, Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

South Tigray Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	109.53	92.03	762.85	90.50	6.96
Teff	31.63	26.58	132.98	15.78	4.20
Barley	23.30	19.58	178.62	21.19	7.67
Wheat	20.71	17.40	178.39	21.16	8.61
Maize	15.64	13.14	135.04	16.02	8.63
Sorghum	16.83	14.14	131.08	15.55	7.79
Millet	1.42	1.19	**	**	**
Oats	**	**	NS	-	**
Pulses	7.91	6.65	76.53	9.08	9.68
Horse Beans	1.87	1.57	**	**	**
Field Peas	1.88	1.58	25.57	3.03	13.60
Haricot Beans	**	**	**	**	**
Chick Peas	.64	.54	**	**	**
Lentils	1.73	1.45	14.49	1.72	8.38
Vetch	1.51	1.27	8.12	.96	5.38
Others	1.57	1.32	3.55	.42	2.26
Neug	-	-	-	-	-
Linseed	1.51	1.27	3.29	.39	2.18
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	NS	-	-
Sesame	**	**	NS	-	-
Fenugreek	**	**	**	**	**
All Crops	119.02	100.00	842.93	100.00	7.08

Table 5. Estimates of Area, Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Afar

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	14.61	92.82	112.53	98.33	7.70
Teff	4.66	29.61	21.99	19.22	4.72
Barley	**	**	**	**	**
Wheat	**	**	**	**	**
Maize	5.26	33.42	59.34	51.85	11.28
Sorghum	4.31	27.38	27.75	24.25	6.44
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.80	5.08	1.67	1.46	2.09
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	**	**	**	**	**
Chick Peas	.33	2.10	1.28	1.12	3.88
Lentils	**	**	NS	-	-
Vetch	-	-	-	-	-
Others	.33	2.10	**	**	**
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	.15	.95	**	**	**
Sesame	.18	1.14	**	**	**
Fenugreek	-	-	-	-	-
All Crops	15.74	100.00	114.44	100.00	7.27

Table 5.1 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Zone 1

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	4.16	100.00	50.31	100.00	12.09
Teff	-	-	-	-	-
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	4.16	100.00	50.31	100.00	12.09
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	-	-	-	-	-
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	-	-	-	-	-
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	4.16	100.00	50.31	100.00	12.09

Table 5.2 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Zone 3

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	9.27	89.91	54.01	96.58	5.83
Teff	4.17	40.45	19.83	35.46	4.76
Barley	**	**	**	**	**
Wheat	**	**	**	**	**
Maize	.98	9.51	7.51	13.43	7.66
Sorghum	3.74	36.28	23.22	41.52	6.21
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.80	7.76	1.67	2.99	2.09
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	**	**	**	**	**
Chick Peas	.33	3.20	1.28	2.29	3.88
Lentils	**	**	NS	-	-
Vetch	-	-	-	-	-
Others	.23	2.23	**	**	**
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	.10	.97	**	**	**
Sesame	**	**	**	**	**
Fenugreek	-	-	-	-	-
All Crops	10.31	100.00	55.92	100.00	5.42

Table 5.3 Estimates of Area, Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Zone 5

CROP TYPE	TOTAL AREA ('000 hectare)	TOTAL AREA %	TOTAL PRODUCTION ('000 quintal)	TOTAL PRODUCTION %	YIELD (QT/HA)
Cereals	1.18	92.91	8.21	100.00	6.96
Teff	**	**	**	**	**
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	.11	8.66	1.52	18.51	13.82
Sorghum	.57	44.88	4.53	55.18	7.95
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	-	-	-	-	-
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	-	-	-	-	-
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	**	**	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	-	-	**
Sesame	**	**	-	-	**
Fenugreek	-	-	-	-	-
All Crops	1.27	100.00	8.21	100.00	6.46

Table 6. Estimates of Area, Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Amhara

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	1,907.69	77.62	18,249.48	83.76	9.57
Teff	744.40	30.29	5,189.98	23.82	6.97
Barley	220.71	8.98	2,112.64	9.70	9.57
Wheat	185.78	7.56	2,085.15	9.57	11.22
Maize	236.83	9.64	3,772.89	17.32	15.93
Sorghum	352.60	14.35	3,590.35	16.48	10.18
Millet	159.36	6.48	1,429.66	6.56	8.97
Oats	8.02	.33	68.83	.32	8.58
Pulses	385.80	15.70	2,899.55	13.31	7.52
Horse Beans	98.92	4.02	877.96	4.03	8.88
Field Peas	44.55	1.81	263.19	1.21	5.91
Haricot Beans	15.41	.63	86.32	.40	5.60
Chick Peas	108.05	4.40	865.18	3.97	8.01
Lentils	18.23	.74	149.65	.69	8.21
Vetch	100.63	4.09	657.24	3.02	6.53
Others	164.33	6.69	639.58	2.94	3.89
Neug	105.16	4.28	389.72	1.79	3.71
Linseed	28.74	1.17	94.23	.43	3.28
Rapeseed	3.30	.13	**	**	**
Ground Nuts	**	**	NS	-	**
Sunflower	2.88	.12	10.89	.05	3.78
Sesame	11.13	.45	**	**	**
Fenugreek	13.03	.53	91.20	.42	7.00
All Crops	2,457.83	100.00	21,788.61	100.00	8.86

Table 6.1 Estimates of Area, Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

North Gonder Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	373.36	78.96	3,099.97	86.66	8.30
Teff	111.29	23.54	566.52	15.84	5.09
Barley	31.44	6.65	280.99	7.86	8.94
Wheat	22.21	4.70	258.07	7.21	11.62
Maize	27.77	5.87	284.69	7.96	10.25
Sorghum	143.40	30.33	1,358.85	37.99	9.48
Millet	36.41	7.70	344.54	9.63	9.46
Oats	**	**	**	**	**
Pulses	60.75	12.85	355.27	9.93	5.85
Horse Beans	13.60	2.88	143.42	4.01	10.55
Field Peas	6.59	1.39	21.50	.60	3.26
Haricot Beans	**	**	-	-	-
Chick Peas	26.30	5.56	153.90	4.30	5.85
Lentils	**	**	-	-	**
Vetch	**	**	**	**	**
Others	38.72	8.19	121.75	3.40	3.14
Neug	26.65	5.64	80.53	2.25	3.02
Linseed	2.77	.59	10.92	.31	3.94
Rapeseed	.38	.08	**	**	**
Ground Nuts	-	-	-	-	-
Sunflower	**	**	NS	-	**
Sesame	**	**	**	**	**
Fenugreek	**	**	**	**	**
All Crops	472.83	100.00	3,577.00	100.00	7.57

Table 6.2 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

South Gonder Zone

	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
CROP TYPE	('000 hectare)	%	('000 quintal)	%	
Cereals	249.56	75.34	1,640.08	80.27	6.57
Teff	107.27	32.39	513.05	25.11	4.78
Barley	35.93	10.85	244.96	11.99	6.82
Wheat	20.14	6.08	119.58	5.85	5.94
Maize	32.97	9.95	313.69	15.35	9.51
Sorghum	24.55	7.41	205.01	10.03	8.35
Millet	28.69	8.66	243.79	11.93	8.50
Oats	**	**	NS	-	**
Pulses	55.81	16.85	306.75	15.01	5.50
Horse Beans	12.34	3.73	67.22	3.29	5.45
Field Peas	5.00	1.51	30.56	1.50	6.11
Haricot Beans	6.17	1.86	**	**	**
Chick Peas	25.67	7.75	180.29	8.82	7.02
Lentils	.47	.14	2.57	.13	5.47
Vetch	**	**	16.91	.83	**
Others	25.85	7.80	96.34	4.72	3.73
Neug	17.49	5.28	64.31	3.15	3.68
Linseed	6.11	1.84	**	**	**
Rapeseed	**	**	**	**	**
Ground Nuts	-	-	-	-	-
Sunflower	**	**	**	**	**
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	331.23	100.00	2,043.17	100.00	6.17

Table 6.3 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

North Wolo Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	111.50	76.14	1,029.37	78.31	9.23
Teff	36.21	24.73	242.54	18.45	6.70
Barley	19.70	13.45	221.16	16.82	11.23
Wheat	26.99	18.43	337.09	25.64	12.49
Maize	**	**	17.12	1.30	**
Sorghum	21.70	14.82	183.46	13.96	8.45
Millet	**	**	**	**	**
Oats	1.82	1.24	15.93	1.21	8.75
Pulses	30.07	20.53	237.26	18.05	7.89
Horse Beans	6.96	4.75	69.07	5.25	9.92
Field Peas	6.03	4.12	36.24	2.76	6.01
Haricot Beans	**	**	-	-	**
Chick Peas	6.81	4.65	63.47	4.83	9.32
Lentils	**	**	37.61	2.86	**
Vetch	**	**	**	**	**
Others	4.87	3.33	**	**	**
Neug	**	**	**	**	**
Linseed	1.63	1.11	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	NS	-	**
Sesame	**	**	**	**	**
Fenugreek	2.98	2.03	**	**	**
All Crops	146.44	100.00	1,314.48	100.00	8.98

Table 6.4 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

South Wolo Zone

	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
CROP TYPE	('000 hectare)	%	('000 quintal)	%	
Cereals	172.92	74.39	1,740.38	75.96	10.06
Teff	65.24	28.07	562.07	24.53	8.62
Barley	23.25	10.00	287.43	12.54	12.36
Wheat	30.06	12.93	345.84	15.09	11.50
Maize	13.48	5.80	**	**	**
Sorghum	35.04	15.07	350.30	15.29	10.00
Millet	**	**	**	**	**
Oats	3.63	1.56	32.26	1.41	8.89
Pulses	50.68	21.80	500.29	21.84	9.87
Horse Beans	23.66	10.18	282.00	12.31	11.92
Field Peas	9.65	4.15	70.98	3.10	7.36
Haricot Beans	1.43	.62	12.23	.53	8.55
Chick Peas	6.43	2.77	46.07	2.01	7.16
Lentils	2.29	.99	21.39	.93	9.34
Vetch	7.23	3.11	67.62	2.95	9.35
Others	8.85	3.81	50.53	2.21	5.71
Neug	**	**	**	**	**
Linseed	1.03	.44	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	**	**	NS	-	**
Fenugreek	**	**	29.00	1.27	**
All Crops	232.46	100.00	2,291.20	100.00	9.86

Table 6.5 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

North Shewa Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	208.26	81.82	2,009.23	85.34	9.65
Teff	89.37	35.11	650.78	27.64	7.28
Barley	30.90	12.14	350.92	14.91	11.36
Wheat	34.14	13.41	488.18	20.74	14.30
Maize	6.82	2.68	**	**	**
Sorghum	46.63	18.32	469.46	19.94	10.07
Millet	**	**	NS	-	**
Oats	**	**	**	**	**
Pulses	39.56	15.54	327.35	13.90	8.27
Horse Beans	12.27	4.82	78.37	3.33	6.39
Field Peas	2.53	.99	14.60	.62	5.77
Haricot Beans	**	**	**	**	**
Chick Peas	10.71	4.21	96.86	4.11	9.04
Lentils	6.77	2.66	**	**	**
Vetch	**	**	**	**	**
Others	6.70	2.63	17.75	.75	2.65
Neug	**	**	**	**	**
Linseed	2.10	.83	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	.89	.35	**	**	**
Sesame	**	**	**	**	**
Fenugreek	.57	.22	**	**	**
All Crops	254.52	100.00	2,354.33	100.00	9.25

Table 6.6 Estimates of Area,Production and Yield of Major Crops for Private Peasant Hold s 1997/98 (1990 E.C.)

East Gojam Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 qu al)—	%	YIELD (QT/HA)
Cereals	275.29	71.69	3,376.58	78.30	12.27
Teff	141.28	36.79	1,500.77	34.80	10.62
Barley	32.85	8.56	354.54	8.22	10.79
Wheat	38.88	10.13	435.83	10.11	11.21
Maize	39.56	10.30	635.71	14.74	16.07
Sorghum	22.34	5.82	**	**	**
Millet	**	**	**	**	**
Oats	-	-	-	-	-
Pulses	88.21	22.97	826.46	19.16	9.37
Horse Beans	14.07	3.66	127.25	2.95	9.04
Field Peas	6.11	1.59	42.63	.99	6.98
Haricot Beans	**	**	**	1.18	**
Chick Peas	23.90	6.22	261.61	6.07	10.95
Lentils	**	**	**	.01	**
Vetch	40.84	10.64	343.79	7.97	8.42
Others	20.48	5.33	109.46	2.54	5.34
Neug	10.33	2.69	60.06	1.39	5.81
Linseed	8.11	2.11	37.90	.88	4.67
Rapeseed	.41	.11	**	**	**
Ground Nuts	-	-	-	-	-
Suriflower	**	**	NS	-	**
Sesame	**	**	NS	-	**
Fenugreek	**	**	**	**	**
All Crops	383.98	100.00	4,312.50	100.00	11.23

Table 6.7 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

West Gojam Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	306.07	78.21	3,442.51	89.47	11.25
Teff	122.42	31.28	734.80	19.10	6.00
Barley	18.84	4.81	149.17	3.88	7.92
Wheat	6.09	1.56	53.	1.39	8.81
Maize	83.05	21.22	1,818.75	47.27	21.90
Sorghum	13.41	3.43	116.01	3.02	8.65
Millet	61.29	15.66	562.09	14.61	9.17
Oats	**	**	**	**	**
Pulses	46.33	11.84	267.21	6.94	5.77
Horse Beans	9.21	2.35	7.526	1.76	7.34
Field Peas	5.30	1.35	28.71	.75	5.42
Haricot Beans	**	**	-	-	-
Chick Peas	6.85	1.75	58.01	1.51	8.47
Lentils	-	-	-	-	-
Vetch	**	**	**	**	**
Others	38.91	9.94	137.98	3.59	3.55
Neug	31.66	8.09	112.58	2.93	3.56
Linseed	5.14	1.31	7.49	.19	1.46
Rapeseed	**	**	**	**	**
Ground Nuts	-	-	-	-	-
Sunflower	**	**	NS	-	**
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	391.32	100.00	3,847.70	100.00	9.83

Table 6.8 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Waghamera Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	52.41	83.88	314.95	86.00	6.01
Teff	14.95	23.93	58.66	16.02	3.92
Barley	10.85	17.37	68.20	18.62	6.29
Wheat	4.77	7.63	29.0	8.14	6.25
Maize	.65	1.04	4.84	1.32	7.45
Sorghum	21.10	33.77	153.25	41.85	7.26
Millet	**	**	**	**	**
Oats	-	-	-	-	-
Pulses	8.00	12.80	48.18	13.16	6.02
Horse Beans	3.57	5.71	5.911	7.08	7.26
Field Peas	1.44	2.30	7.31	2.00	5.08
Haricot Beans	1.31	2.10	**	2.90	8.10
Chick Peas	.88	1.41	2.25	.61	2.56
Lentils	.80	1.28	2.09	.57	2.61
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	.14	.22	**	**	**
Linseed	.31	.50	.70	.19	2.26
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	**	**	**
Sesame	**	**	NS	-	**
Fenugreek	-	-	-	-	-
All Crops	62.48	100.00	366.21	100.00	5.86

Table 6.9 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Agewawia Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	123.76	84.35	1,176.27	93.60	9.50
Teff	48.28	32.91	316.04	25.15	6.55
Barley	16.78	11.44	153.65	12.23	9.16
Wheat	2.33	1.59	16.	1.27	6.87
Maize	24.08	16.41	403.23	32.09	16.75
Sorghum	**	2.32	**	**	**
Millet	28.85	19.66	249.95	19.89	8.66
Oats	**	**	NS	-	-
Pulses	5.37	3.66	25.87	2.06	4.82
Horse Beans	2.81	1.92	4.480	1.15	5.12
Field Peas	1.63	1.11	9.21	.73	5.65
Haricot Beans	**	**	NS	-	-
Chick Peas	**	**	**	**	**
Lentils	-	-	-	-	-
Vetch	**	**	NS	-	-
Others	17.59	11.99	54.55	4.34	3.10
Neug	15.58	10.62	51.79	4.12	3.32
Linseed	**	**	**	**	**
Rapeseed	.33	.22	**	**	**
Ground Nuts	**	**	NS	-	**
Sunflower	-	-	-	-	-
Sesame	**	**	**	**	**
Fenugreek	**	**	NS	-	**
All Crops	146.72	100.00	1,256.69	100.00	8.57

Table 6.10 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Oromia Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	34.55	96.35	420.14	98.78	12.16
Teff	8.09	22.56	44.76	10.52	5.53
Barley	.17	.47	1.62	.38	9.53
Wheat	.16	.45	**	**	**
Maize	4.55	12.69	99.38	23.37	21.84
Sorghum	21.02	58.62	269.43	63.35	12.82
Millet	**	**	**	**	**
Oats	.42	1.17	**	**	**
Pulses	1.02	2.84	4.91	1.15	4.81
Horse Beans	**	**	**	**	**
Field Peas	.28	.78	**	**	**
Haricot Beans	**	**	-	-	-
Chick Peas	.11	.31	**	**	**
Lentils	**	**	**	**	**
Vetch	**	**	NS	-	-
Others	.29	.81	**	**	**
Neug	**	**	-	-	-
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	NS	-	**
Sesame	**	**	NS	-	**
Fenugreek	-	-	-	-	-
All Crops	35.86	100.00	425.32	100.00	11.86

Table 7 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Oromia

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	2,549.73	82.33	33,637.34	89.22	13.19
Teff	729.53	23.56	6,072.24	16.11	8.32
Barley	352.59	11.39	4,796.65	12.72	13.60
Wheat	486.47	15.71	7,60 80	20.18	15.64
Maize	577.57	18.65	10,314.38	27.36	17.86
Sorghum	326.70	10.55	4,123.95	10.94	12.62
Millet	45.28	1.46	383.33	1.02	8.47
Oats	31.60	1.02	339.98	.90	10.76
Pulses	340.99	11.01	3,045.89	8.08	8.93
Horse Beans	127.35	4.11	3635.63	3.62	10.71
Field Peas	51.91	1.68	470.37	1.25	9.06
Haricot Beans	49.87	1.61	293.33	.78	5.88
Chick Peas	51.63	1.67	438.96	1.16	8.50
Lentils	25.10	.81	136.01	.36	5.42
Vetch	35.13	1.13	343.58	.91	9.78
Others	206.21	6.66	1 ,019.79	2.70	4.95
Neug	72.09	2.33	279.02	.74	3.87
Linseed	99.68	3.22	539.59	1.43	5.41
Rapeseed	9.17	.30	65.44	.17	7.14
Ground Nuts	**	**	**	**	**
Sunflower	**	**	**	**	**
Sesame	**	**	**	**	**
Fenugreek	15.25	.49	67.01	.18	4.39
All Crops	3,096.94	100.00	37,703.02	100.00	12.17

Table 7.1 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

West Welega Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	218.44	90.31	2,303.55	94.77	10.55
Teff	49.01	20.26	222.63	9.16	4.54
Barley	3.36	1.39	21.53	.89	6.41
Wheat	6.59	2.72	72.22	2.97	10.96
Maize	86.43	35.73	1,172.10	48.22	13.56
Sorghum	48.43	20.02	645.06	26.54	13.32
Millet	24.61	10.17	170.01	6.99	6.91
Oats	-	-	-	-	-
Pulses	19.50	8.06	116.91	4.81	6.00
Horse Beans	6.80	2.81	42.63	1.75	6.27
Field Peas	2.30	.95	6.13	.25	2.67
Haricot Beans	7.42	3.07	52.07	2.14	7.02
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	**	**	**	**	**
Others	3.95	1.63	10.28	.42	2.60
Neug	3.81	1.58	9.83	.40	2.58
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	.09	.04	**	**	**
All Crops	241.88	100.00	2,430.74	100.00	10.05

Table 7.2 Estimates of Area, Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

East Welega Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	260.35	80.27	3,162.68	90.21	12.15
Teff	115.03	35.46	755.01	21.54	6.56
Barley	14.71	4.54	132.54	3.78	9.01
Wheat	17.27	5.32	243.57	6.95	14.10
Maize	83.21	25.65	1,688.35	48.16	20.29
Sorghum	15.63	4.82	202.85	5.79	12.98
Millet	14.29	4.41	137.24	3.91	9.60
Oats	**	**	**	**	**
Pulses	20.61	6.35	175.36	5.00	8.51
Horse Beans	13.88	4.28	134.04	3.82	9.66
Field Peas	5.47	1.69	37.74	1.08	6.90
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	-	-	-	-	-
Others	43.39	13.38	167.92	4.79	3.87
Neug	39.67	12.23	155.75	4.44	3.93
Linseed	**	**	**	**	**
Rapeseed	.48	.15	**	**	**
Ground Nuts	**	**	-	-	-
Sunflower	-	-	-	-	-
Sesame	**	**	**	**	**
Fenugreek	.17	.05	.30	.01	1.76
All Crops	324.35	100.00	3,505.96	100.00	10.81

Table 7.3 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Illubabor Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	103.58	89.71	1,234.25	96.00	11.92
Teff	41.57	36.00	302.60	23.54	7.28
Barley	1.12	.97	6.15	.48	5.49
Wheat	**	**	**	**	**
Maize	44.96	38.94	751.19	58.43	16.71
Sorghum	13.89	12.03	159.35	12.39	11.47
Millet	1.72	1.49	13.17	1.02	7.66
Oats	-	-	**	**	-
Pulses	11.10	9.61	50.40	3.92	4.54
Horse Beans	5.16	4.47	19.68	1.53	3.81
Field Peas	3.13	2.71	11.63	.90	3.72
Haricot Beans	1.97	1.71	**	**	**
Chick Peas	**	**	**	**	**
Lentils	-	-	-	-	-
Vetch	**	**	**	**	**
Others	.77	.67	1.02	.08	1.32
Neug	**	**	.63	.05	1.37
Linseed	.28	.24	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	115.46	100.00	1,285.67	100.00	11.14

Table 7.4 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Jimma Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	245.11	89.07	2,834.65	94.66	11.56
Teff	110.62	40.20	847.85	28.31	7.66
Barley	11.00	4.00	87.28	2.91	7.93
Wheat	14.76	5.36	118.09	3.94	8.00
Maize	69.56	25.28	1,310.34	43.76	18.84
Sorghum	34.09	12.39	410.27	13.70	12.03
Millet	**	**	**	**	**
Oats	2.10	.76	**	**	**
Pulses	23.73	8.62	134.65	4.50	5.67
Horse Beans	14.59	5.30	71.49	2.39	4.90
Field Peas	5.50	2.00	38.38	1.28	6.98
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	-	-	-	-	-
Others	6.34	2.30	**	**	**
Neug	**	**	**	**	**
Linseed	1.74	.63	8.13	.27	4.67
Rapeseed	**	**	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	**	**	**	**	**
Fenugreek	-	-	-	-	-
All Crops	275.18	100.00	2,994.48	100.00	10.88

Table 7.5 Estimates of Area, Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

West Shewa Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	361.54	79.03	4,396.66	86.49	12.16
Teff	174.65	38.18	1,668.14	32.82	9.55
Barley	52.57	11.49	669.87	13.18	12.74
Wheat	76.20	16.66	981.83	19.31	12.88
Maize	32.55	7.12	632.17	12.44	19.42
Sorghum	25.04	5.47	437.15	8.60	17.46
Millet	-	-	-	-	-
Oats	.53	.12	**	**	**
Pulses	60.39	13.20	525.31	10.33	8.70
Horse Beans	14.82	3.24	179.61	3.53	12.12
Field Peas	4.45	.97	**	**	**
Haricot Beans	-	-	-	-	-
Chick Peas	25.87	5.66	167.36	3.29	6.47
Lentils	3.38	.74	9.65	.19	2.86
Vetch	11.87	2.59	125.68	2.47	10.59
Others	35.52	7.76	161.34	3.17	4.54
Neug	14.66	3.20	**	**	**
Linseed	16.59	3.63	78.12	1.54	4.71
Rapeseed	**	**	**	**	**
Ground Nuts	-	-	-	-	-
Sunflower	**	-	**	-	**
Sesame	-	-	-	-	-
Fenugreek	**	**	**	-	**
All Crops	457.45	100.00	5,083.31	100.00	11.11

Table 7.6 Estimates of Area, Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

North Shewa Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	189.22	75.31	2,004.79	81.38	10.60
Teff	74.60	29.69	563.25	22.86	7.55
Barley	45.32	18.04	615.47	24.98	13.58
Wheat	41.98	16.71	559.99	22.73	13.34
Maize	5.33	2.12	34.80	1.41	6.53
Sorghum	21.71	8.64	229.82	9.33	10.59
Millet	**	**	NS	-	-
Oats	.24	.10	**	**	**
Pulses	48.53	19.31	405.43	16.46	8.35
Horse Beans	16.70	6.65	157.96	6.41	9.46
Field Peas	5.94	2.36	53.29	2.16	8.97
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	**	**	**
Lentils	**	**	32.24	1.31	3.69
Vetch	9.55	3.80	92.86	3.77	9.72
Others	13.52	5.38	53.18	2.16	3.93
Neug	5.27	2.10	20.91	.85	3.97
Linseed	8.00	3.18	31.60	1.28	3.95
Rapeseed	**	**	NS	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	NS	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	251.27	100.00	2,463.40	100.00	9.80

Table 7.7 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

East Shewa Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	264.35	82.19	3,979.58	88.78	15.05
Teff	86.97	27.04	1,030.47	22.99	11.85
Barley	12.37	3.85	147.84	3.30	11.95
Wheat	59.52	18.51	1,103.00	24.61	18.53
Maize	102.06	31.73	1,653.69	36.89	16.20
Sorghum	2.69	.84	41.42	.92	15.40
Millet	.59	.18	**	**	**
Oats	**	**	NS	-	-
Pulses	55.45	17.24	485.66	10.83	8.76
Horse Beans	4.79	1.49	50.62	1.13	10.57
Field Peas	4.33	1.35	**	**	**
Haricot Beans	24.27	7.55	106.04	2.37	4.37
Chick Peas	9.34	2.90	142.52	3.18	15.26
Lentils	**	**	**	**	**
Vetch	4.35	1.35	**	**	**
Others	1.83	.57	**	**	**
Neug	-	-	-	-	-
Linseed	.23	.07	NS	..	-
Rapeseed	**	**	**	**	**
Ground Nuts	**	**	NS	-	-
Sunflower	**	-	**	-	**
Sesame	.08	.02	**	**	**
Fenugreek	**	**	**	**	**
All Crops	321.62	100.00	4,482.55	100.00	13.94

Table 7.8 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Arsi Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	438.96	78.81	7,431.23	87.11	16.93
Teff	39.82	7.15	387.29	4.54	9.73
Barley	144.58	25.96	2,243.89	26.30	15.52
Wheat	182.73	32.81	3,426.53	40.16	18.75
Maize	48.62	8.73	1,052.82	12.34	21.65
Sorghum	16.09	2.89	236.28	2.77	14.68
Millet	**	**	NS	-	-
Oats	**	**	**	**	**
Pulses	58.84	10.56	763.74	8.95	12.98
Horse Beans	36.54	6.56	537.04	6.30	14.70
Field Peas	11.38	2.04	**	**	**
Haricot Beans	6.35	1.14	**	**	**
Chick Peas	**	**	NS	-	-
Lentils	**	**	**	**	**
Vetch	**	**	**	**	**
Others	59.21	10.63	336.21	3.94	5.68
Neug	**	**	**	**	**
Linseed	50.14	9.00	273.69	3.21	5.46
Rapeseed	4.27	.77	33.58	.39	7.86
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	557.01	100.00	8,531.17	100.00	15.32

Table 7.9 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

West Harerge Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	107.88	90.71	1,466.31	92.95	13.59
Teff	4.01	3.37	30.67	1.94	7.65
Barley	3.62	3.04	37.98	2.41	10.49
Wheat	**	**	**	**	**
Maize	35.06	29.48	697.88	44.24	19.91
Sorghum	63.41	53.32	682.04	43.23	10.76
Millet	**	**	**	**	**
Oats	.45	.38	1.28	.08	2.84
Pulses	10.35	8.70	108.90	6.90	10.52
Horse Beans	5.05	4.25	76.04	4.82	15.06
Field Peas	**	**	**	**	**
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	**	**	**	**	**
Others	.70	.59	2.38	.15	3.40
Neug	-	-	-	-	-
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	**	**	**	**	**
Sunflower	-	-	-	-	-
Sesame	**	**	NS	-	-
Fenugreek	**	**	**	**	**
All Crops	118.93	100.00	1,577.58	100.00	13.26

Table 7.10 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

East Hararge Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	119.28	90.02	1,614.46	93.85	13.54
Teff	2.25	1.70	**	**	**
Barley	**	**	**	**	**
Wheat	5.35	4.04	**	**	**
Maize	30.32	22.88	567.64	33.00	18.72
Sorghum	77.86	58.76	939.03	54.59	12.06
Millet	-	-	-	-	-
Oats	**	**	**	**	**
Pulses	4.36	3.29	41.91	2.44	9.61
Horse Beans	**	**	**	**	**
Field Peas	**	**	NS	-	-
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	NS	-	-
Lentils	**	**	NS	-	-
Vetch	**	**	NS	-	-
Others	**	**	**	**	**
Neug	**	**	NS	-	-
Linseed	**	**	NS	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	**	**	**	**	**
Sunflower	-	-	-	-	-
Sesame	**	**	NS	-	-
Fenugreek	**	**	**	**	**
All Crops	132.50	100.00	1,720.29	100.00	12.98

Table 7.11 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Bale Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	178.92	77.05	2,255.56	86.80	12.61
Teff	20.70	8.91	166.23	6.40	8.03
Barley	46.37	19.97	587.44	22.61	12.67
Wheat	74.52	32.09	936.86	36.05	12.57
Maize	12.08	5.20	243.09	9.36	20.12
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	20.00	8.61	220.98	8.50	11.05
Pulses	21.21	9.13	161.86	6.23	7.63
Horse Beans	4.71	2.03	39.40	1.52	8.37
Field Peas	6.84	2.95	43.58	1.68	6.37
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	**	**	**	**	**
Others	32.10	13.82	181.05	6.97	5.64
Neug	**	**	**	**	**
Linseed	19.95	8.59	141.16	5.43	7.08
Rapeseed	**	**	**	**	**
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	232.22	100.00	2,598.47	100.00	11.19

Table 7.12 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Borena Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	62.11	89.95	953.63	92.64	15.35
Teff	10.31	14.93	82.59	8.02	8.01
Barley	14.95	21.65	220.91	21.46	14.78
Wheat	6.84	9.91	100.09	9.72	14.63
Maize	27.40	39.68	510.30	49.57	18.62
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	6.91	10.01	75.74	7.36	10.96
Horse Beans	1.66	2.40	**	**	**
Field Peas	**	**	**	**	**
Haricot Beans	3.71	5.37	**	**	**
Chick Peas	**	**	**	**	**
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	**	**	**	-	**
Neug	-	-	-	-	-
Linseed	**	**	**	-	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	NS	-	-
All Crops	69.05	100.00	1,029.38	100.00	14.91

Table 8. Estimates of Area, Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Somale

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	49.67	96.47	491.72	97.04	9.90
Teff	**	**	NS	-	-
Barley	4.19	8.14	15.95	3.15	3.81
Wheat	2.47	4.80	10.40	2.05	4.21
Maize	22.15	43.02	324.01	63.94	14.63
Sorghum	20.65	40.10	141.36	27.90	6.85
Millet	**	**	NS	-	-
Oats	**	**	NS	-	-
Pulses	1.45	2.82	**	**	**
Horse Beans	-	-	-	-	-
Field Peas	**	**	NS	-	-
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	**	**	**
Lentils	**	**	NS	-	-
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	-	-	-	-	-
Linseed	**	**	**	-	**
Rapeseed	-	-	-	-	-
Ground Nuts	**	**	**	**	**
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	51.49	100.00	506.71	100.00	9.84

Table 8.1 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Shinele Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	.49	100.00	4.37	100.00	8.92
Teff	-	-	-	-	-
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	.13	26.53	1.74	39.82	13.38
Sorghum	.35	71.43	**	**	**
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	-	-	-	-	-
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	-	-	-	-	-
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	.49	100.00	4.37	100.00	8.92

Table 8.2 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Jijiga Zone

CROP TYPE	TOTAL AREA ('000 hectare)	TOTAL AREA %	TOTAL PRODUCTION ('000 quintal)	TOTAL PRODUCTION %	YIELD (QT/HA)
Cereals	38.72	98.27	281.30	99.57	7.26
Teff	**	**	NS	-	-
Barley	4.19	10.63	15.95	5.65	3.81
Wheat	2.44	6.19	10.34	3.66	4.24
Maize	12.28	31.17	123.81	43.82	10.08
Sorghum	19.62	49.80	131.20	46.44	6.69
Millet	**	**	NS	-	-
Oats	**	**	NS	-	-
Pulses	.31	.79	**	**	**
Horse Beans	-	-	-	-	-
Field Peas	**	**	NS	-	-
Haricot Beans	.08	.20	**	**	**
Chick Peas	**	**	**	**	**
Lentils	**	**	NS	-	-
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	-	-	-	-	-
Linseed	**	**	**	-	**
Rapeseed	-	-	-	-	-
Ground Nuts	**	**	**	**	**
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	39.40	100.00	282.52	100.00	7.17

Table 8.3 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Moyale Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	10.46	90.17	206.05	93.74	19.70
Teff	-	-	-	-	-
Barley	-	-	-	-	-
Wheat	**	**	**	**	**
Maize	9.74	83.97	198.46	90.28	20.38
Sorghum	.67	5.78	**	**	**
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	**	**	**	**	**
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	**	**	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	11.60	100.00	219.82	100.00	18.95

Table 9. Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Benshangul-Gumuz

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	107.38	80.50	1,395.90	91.79	13.00
Teff	22.98	17.23	173.80	11.43	7.56
Barley	**	**	**	**	**
Wheat	**	**	**	**	**
Maize	22.05	16.53	395.96	26.04	17.96
Sorghum	45.83	34.36	637.80	41.94	13.92
Millet	13.69	10.26	**	**	**
Oats	**	**	.03	-	**
Pulses	5.85	4.39	35.05	2.30	5.99
Horse Beans	1.35	1.01	**	**	**
Field Peas	**	**	**	**	**
Haricot Beans	3.32	2.49	18.25	1.20	5.50
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	-	-	-	-	-
Others	20.16	15.11	89.86	5.91	4.46
Neug	14.74	11.05	56.54	3.72	3.84
Linseed	.24	.18	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	1.16	.87	8.31	.55	7.16
Sunflower	-	-	**	**	**
Sesame	4.02	3.01	24.75	1.63	6.16
Fenugreek	-	-	-	-	-
All Crops	133.39	100.00	1,520.80	100.00	11.40

Table 9.1 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Metekel Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	54.22	83.26	732.50	91.64	13.51
Teff	12.09	18.57	127.29	15.92	10.53
Barley	**	**	**	**	**
Wheat	**	**	**	**	**
Maize	4.85	7.45	90.22	11.29	18.60
Sorghum	24.07	36.96	376.16	47.06	15.63
Millet	10.41	15.99	112.41	14.06	10.80
Oats	**	**	**	**	**
Pulses	3.97	6.10	22.91	2.87	5.77
Horse Beans	.78	1.20	6.34	.79	8.13
Field Peas	**	**	**	**	**
Haricot Beans	2.45	3.76	12.78	1.60	5.22
Chick Peas	**	**	NS	-	-
Lentils	**	**	**	**	**
Vetch	-	-	-	-	-
Others	6.93	10.64	43.93	5.50	6.34
Neug	4.13	6.34	**	**	**
Linseed	**	**	.10	.01	.83
Rapeseed	-	-	-	-	-
Ground Nuts	**	**	**	**	**
Sunflower	-	-	**	**	**
Sesame	2.33	3.58	17.96	2.25	7.71
Fenugreek	-	-	-	-	-
All Crops	65.12	100.00	799.34	100.00	12.27

Table 9.2 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Asosa Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	36.60	74.24	386.92	89.46	10.57
Teff	7.24	14.69	24.23	5.60	3.35
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	11.10	22.52	160.14	37.02	14.43
Sorghum	17.91	36.33	200.16	46.28	11.18
Millet	.36	.73	2.39	.55	6.64
Oats	-	-	-	-	-
Pulses	.95	1.93	**	**	**
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	**	**	**
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	11.75	23.83	40.55	9.38	3.45
Neug	9.53	19.33	31.05	7.18	3.26
Linseed	.12	.24	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	** .81	1.64	**	**	**
Sunflower	-	-	-	-	-
Sesame	1.30	2.64	4.94	1.14	3.80
Fenugreek	-	-	-	-	-
All Crops	49.30	100.00	432.53	100.00	8.77

Table 9.3 Estimates of Area, Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Kemeshi Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	**	**	**	**	**
Teff	**	**	**	**	**
Barley	.02	.11	**	**	**
Wheat	-	-	-	-	-
Maize	**	**	**	**	**
Sorghum	3.86	20.36	61.48	21.28	15.93
Millet	**	**	**	**	**
Oats	-	-	-	-	-
Pulses	**	**	**	**	**
Horse Beans	**	**	**	**	**
Field Peas	**	**	**	**	**
Haricot Beans	**	**	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	**	**	5.38	1.86	3.66
Neug	**	**	**	**	**
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	**	**	**
Sunflower	-	-	-	-	-
Sesame	.39	2.06	1.85	.64	4.74
Fenugreek	-	-	-	-	-
All Crops	**	**	**	**	**

Table 10. Estimates of Area, Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

(S.N.N.P.R)

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	478.55	86.76	6,420.05	92.07	13.42
Teff	123.24	22.34	877.65	12.59	7.12
Barley	49.97	9.06	505.75	7.25	10.12
Wheat	66.95	12.14	960.71	13.78	14.35
Maize	165.47	30.00	3,246.38	46.56	19.62
Sorghum	69.59	12.62	807.46	11.58	11.60
Millet	3.16	.57	21.73	.31	6.88
Oats	**	**	**	**	**
Pulses	70.71	12.82	542.47	7.78	7.67
Horse Beans	30.01	5.44	251.14	3.60	8.37
Field Peas	18.53	3.36	149.44	2.14	8.06
Haricot Beans	18.42	3.34	122.62	1.76	6.66
Chick Peas	3.00	.54	16.15	.23	5.38
Lentils	.20	.04	**	**	**
Vetch	**	**	**	**	**
Others	2.32	.42	10.55	.15	4.55
Neug	**	**	**	**	**
Linseed	**	**	**	**	**
Rapeseed	.20	.04	**	-	**
Ground Nuts	-	-	-	-	-
Sunflower	.23	.04	**	**	**
Sesame	**	**	**	**	**
Fenugreek	**	**	**	**	**
All Crops	551.58	100.00	6,973.06	100.00	12.64

Table 10.1 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Gurage Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	91.64	91.07	1,310.81	92.37	14.30
Teff	31.26	31.06	227.51	16.03	7.28
Barley	12.82	12.74	197.46	13.91	15.40
Wheat	11.65	11.58	137.83	9.71	11.83
Maize	28.14	27.96	636.86	44.88	22.63
Sorghum	7.67	7.62	110.87	7.81	14.46
Millet	**	**	NS	-	-
Oats	**	**	**	**	**
Pulses	8.56	8.51	106.87	7.53	12.48
Horse Beans	3.76	3.74	54.02	3.81	14.37
Field Peas	2.32	2.31	**	**	**
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	**	**	**	**	**
Others	**	**	**	**	**
Neug	**	**	**	**	**
Linseed	-	-	-	-	-
Rapeseed	**	**	NS	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	NS	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	100.63	100.00	1,419.14	100.00	14.10

Table 10.2 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Hadiya Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	86.87	90.62	1,323.49	92.95	15.24
Teff	21.86	22.80	239.42	16.82	10.95
Barley	5.37	5.60	76.79	5.39	14.30
Wheat	32.85	34.27	563.11	39.55	17.14
Maize	18.93	19.75	320.78	22.53	16.95
Sorghum	7.54	7.87	121.35	8.52	16.09
Millet	**	**	**	**	**
Oats	**	**	NS	-	-
Pulses	8.46	8.83	96.88	6.80	11.45
Horse Beans	5.00	5.22	61.09	4.29	12.22
Field Peas	2.88	3.00	30.87	2.17	10.72
Haricot Beans	.45	.47	**	**	**
Chick Peas	**	**	**	**	**
Lentils	**	**	**	-	**
Vetch	**	**	**	**	**
Others	**	**	**	**	**
Neug	-	-	-	-	-
Linseed	**	**	**	**	**
Rapeseed	**	**	NS	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	NS	-	-
All Crops	95.86	100.00	1,423.83	100.00	14.85

Table 10.3 Estimates of Area, Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Kembata Alaba Tembaro Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	54.08	94.22	797.62	96.45	14.75
Teff	11.89	20.71	98.75	11.94	8.31
Barley	.41	.71	4.84	.59	11.80
Wheat	10.91	19.01	156.88	18.97	14.38
Maize	26.26	45.75	482.47	58.34	18.37
Sorghum	2.82	4.91	38.04	4.60	13.49
Millet	1.79	3.12	16.65	2.01	9.30
Oats	-	-	-	-	-
Pulses	2.69	4.69	26.04	3.15	9.68
Horse Beans	2.22	3.87	23.87	2.89	10.75
Field Peas	.14	.24	**	**	**
Haricot Beans	.25	.44	1.46	.18	5.84
Chick Peas	**	**	**	**	**
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	-	-	-	-	-
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	57.40	100.00	827.00	100.00	14.41

Table 10.4 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Sidama Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	32.48	86.13	734.69	96.29	22.62
Teff	.83	2.20	**	**	**
Barley	2.40	6.36	19.06	2.50	7.94
Wheat	1.43	3.79	19.97	2.62	13.97
Maize	27.71	73.48	**	**	**
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	**	**	**	**	**
Pulses	5.23	13.87	28.31	3.71	5.41
Horse Beans	1.46	3.87	**	**	**
Field Peas	**	**	**	**	**
Haricot Beans	3.41	9.04	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	**	**	NS	NS	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	NS	NS	-
All Crops	37.71	100.00	763.00	100.00	20.23

Table 10.5 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Gedio Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	6.43	71.29	91.25	83.21	14.19
Teff	.05	.55	**	**	**
Barley	1.75	19.40	**	**	**
Wheat	**	**	**	**	**
Maize	4.14	45.90	75.59	68.93	18.26
Sorghum	.11	1.22	NS	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	2.49	27.61	18.33	16.72	7.36
Horse Beans	1.70	18.85	14.53	13.25	8.55
Field Peas	**	**	**	**	**
Haricot Beans	**	**	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	**	**	**	**	**
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	9.02	100.00	109.66	100.00	12.16

Table 10.6 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

North Omo Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	121.56	83.32	1,296.59	89.38	10.67
Teff	36.88	25.28	202.05	13.93	5.48
Barley	**	**	**	**	**
Wheat	4.67	3.20	33.89	2.34	7.26
Maize	37.53	25.72	653.33	45.04	17.41
Sorghum	24.53	16.81	273.58	18.86	11.15
Millet	**	**	**	**	**
Oats	**	**	-	-	-
Pulses	24.04	16.48	153.43	10.58	6.38
Horse Beans	6.26	4.29	32.16	2.22	5.14
Field Peas	5.55	3.80	**	**	**
Haricot Beans	11.45	7.85	76.45	5.27	6.68
Chick Peas	**	**	**	**	**
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	-	-	-	-	-
Linseed	**	**	NS	-	-
Rapeseed	**	**	NS	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	**	**	**	**	**
Fenugreek	-	-	-	-	-
All Crops	145.89	100.00	1,450.69	100.00	9.94

Table 10.7 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

South Omo Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	20.19	93.43	175.42	97.44	8.69
Teff	1.09	5.04	**	**	**
Barley	2.47	11.43	**	**	**
Wheat	**	**	**	**	**
Maize	7.63	35.31	108.75	60.41	14.25
Sorghum	8.36	38.69	42.91	23.83	5.13
Millet	**	**	**	**	**
Oats	**	**	-	-	-
Pulses	1.22	5.65	3.23	1.79	2.65
Horse Beans	.71	3.29	**	**	**
Field Peas	.31	1.43	**	**	**
Haricot Beans	.20	.93	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	.21	.97	**	**	**
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	.19	.88	**	**	**
Sesame	**	**	NS	-	-
Fenugreek	-	-	-	-	-
All Crops	21.61	100.00	180.03	100.00	8.33

Table 10.8 Estimates of Area, Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Kefficho-Shekicho Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	27.15	69.70	258.61	80.21	9.53
Teff	11.16	28.65	60.00	18.61	5.38
Barley	3.92	10.06	22.89	7.10	5.84
Wheat	**	**	**	**	**
Maize	4.42	11.35	75.22	23.33	17.02
Sorghum	5.78	14.84	89.41	27.73	15.47
Millet	**	**	NS	-	-
Oats	-	-	-	-	-
Pulses	11.80	30.30	63.81	19.79	5.41
Horse Beans	6.31	16.20	32.10	9.96	5.09
Field Peas	4.88	12.53	24.59	7.63	5.04
Haricot Beans	.62	1.59	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	**	**	NS	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	38.95	100.00	322.42	100.00	8.28

Table 10.9 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Bench-Maji Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	16.23	89.18	251.44	93.27	15.49
Teff	**	**	8.60	3.19	**
Barley	1.57	8.63	13.30	4.93	8.47
Wheat	.28	1.54	**	**	**
Maize	6.75	37.09	156.88	58.19	23.24
Sorghum	4.95	27.20	70.34	26.09	14.21
Millet	**	**	NS	-	-
Oats	-	-	-	-	-
Pulses	1.97	10.82	18.15	6.73	9.21
Horse Beans	1.45	7.97	13.83	5.13	9.54
Field Peas	.50	2.75	**	**	**
Haricot Beans	**	**	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	18.20	100.00	269.59	100.00	14.81

Table 10.10 Estimates of Area, Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Yem Special Wereda Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	8.56	83.11	80.40	86.36	9.39
Teff	3.48	33.79	26.34	28.29	7.57
Barley	1.15	11.17	9.37	10.06	8.15
Wheat	2.33	22.62	24.00	25.78	10.30
Maize	.92	8.93	14.72	15.81	16.00
Sorghum	.67	6.50	5.94	6.38	8.87
Millet	**	**	**	**	**
Oats	-	-	-	-	-
Pulses	1.70	16.50	12.60	13.53	7.41
Horse Beans	1.07	10.39	7.90	8.49	7.38
Field Peas	.61	5.92	4.59	4.93	7.52
Haricot Beans	-	-	-	-	-
Chick Peas	-	-	-	-	-
Lentils	**	**	**	**	**
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	-	-	-	-	-
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	10.30	100.00	93.10	100.00	9.04

Table 10.11 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Amaro Special Wereda Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	.97	60.63	8.33	74.57	8.59
Teff	.47	29.38	3.03	27.13	6.45
Barley	.25	15.63	1.87	16.74	7.48
Wheat	**	**	**	**	**
Maize	**	**	**	**	**
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.61	38.13	2.80	25.07	4.59
Horse Beans	.07	4.38	**	**	**
Field Peas	**	**	**	**	**
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	**	**	**
Lentils	-	-	**	**	-
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	**	**	**	**	**
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	1.60	100.00	11.17	100.00	6.98

Table 10.12 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Burji Special Wereda Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	1.01	53.44	10.64	65.72	10.53
Teff	.12	6.35	.77	4.76	6.42
Barley	.14	7.41	1.02	6.30	7.29
Wheat	.23	12.17	2.11	13.03	9.17
Maize	**	**	**	**	**
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.82	43.39	5.54	34.22	6.76
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	.38	20.11	3.71	22.92	9.76
Chick Peas	.42	22.22	1.82	11.24	4.33
Lentils	**	**	NS	-	-
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	-	-	-	-	-
Linseed	.01	.53	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	NS	-	-
All Crops	1.89	100.00	16.19	100.00	8.57

Table 10.13 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Konso Special Wereda Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	7.37	91.90	31.03	92.65	4.21
Teff	**	**	**	**	**
Barley	**	**	**	**	**
Wheat	**	**	**	**	**
Maize	1.36	16.96	**	**	**
Sorghum	4.65	57.98	22.60	67.48	4.86
Millet	**	**	-	-	-
Oats	-	-	-	-	-
Pulses	.62	7.73	2.44	7.29	3.94
Horse Beans	-	-	-	-	-
Field Peas	.05	.62	NS	-	-
Haricot Beans	.45	5.61	2.24	6.69	4.98
Chick Peas	**	**	**	**	**
Lentils	-	-	-	-	-
Vetch	**	**	**	**	**
Others	.02	.25	**	**	**
Neug	-	-	-	-	-
Linseed	-	-	**	**	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	**	**	**
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	8.02	100.00	33.49	100.00	4.18

Table 10.14 Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Derashe Special Wereda Zone

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	4.01	89.11	49.73	92.52	12.40
Teff	.28	6.22	**	**	**
Barley	.25	5.56	1.88	3.50	7.52
Wheat	**	**	**	**	**
Maize	1.48	32.89	20.03	37.27	13.53
Sorghum	1.94	43.11	26.04	48.45	13.42
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.50	11.11	4.03	7.50	8.06
Horse Beans	-	-	-	-	-
Field Peas	.02	.44	.18	.33	9.00
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	**	**	**
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	4.50	100.00	53.75	100.00	11.94

Table 11. Estimates of Area, Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Gambela

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	12.36	96.49	260.74	99.27	21.10
Teff	-	-	**	**	**
Barley	-	-	**	**	**
Wheat	-	-	-	-	-
Maize	9.00	70.26	216.42	82.40	24.05
Sorghum	3.29	25.68	43.84	16.69	13.33
Millet	**	**	**	**	**
Oats	-	-	-	-	-
Pulses	**	**	**	**	**
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	**	**	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	**	**	**	**	**
Sunflower	-	-	-	-	-
Sesame	**	**	**	**	**
Fenugreek	-	-	-	-	-
All Crops	12.81	100.00	262.66	100.00	20.50

Table 12. Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Harari

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	3.70	83.33	28.47	86.38	7.69
Teff	-	-	-	-	-
Barley	-	-	**	**	**
Wheat	.04	.90	.28	.85	7.00
Maize	.67	15.09	5.34	16.20	7.97
Sorghum	2.99	67.34	22.84	69.30	7.64
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	-	-	-	-	-
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	-	-	-	-	-
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	.74	16.67	4.49	13.62	6.07
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	.74	16.67	4.49	13.62	6.07
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	4.44	100.00	32.96	100.00	7.42

Table 13. Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Addis Ababa

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	5.34	76.18	73.62	80.96	13.79
Teff	2.99	42.65	38.04	41.83	12.72
Barley	**	**	**	**	**
Wheat	2.15	30.67	33.53	36.87	15.60
Maize	-	-	-	-	-
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	**	**	**	**	**
Pulses	1.54	21.97	16.46	18.10	10.69
Horse Beans	**	**	**	**	**
Field Peas	-	-	-	-	-
Haricot Beans	-	-	-	-	-
Chick Peas	.49	6.99	6.07	6.68	12.39
Lentils	.32	4.56	1.05	1.15	3.28
Vetch	.66	9.42	8.74	9.61	13.24
Others	.14	2.00	.85	.93	6.07
Neug	-	-	**	**	**
Linseed	**	**	.05	.05	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	.12	1.71	.78	.86	6.50
All Crops	7.01	100.00	90.93	100.00	12.97

Table 14. Estimates of Area,Production and Yield of Major Crops for Private Peasant Holdings 1997/98 (1990 E.C.)

Dire Dawa

CROP TYPE	TOTAL AREA ('000 hectare)	%	TOTAL PRODUCTION ('000 quintal)	%	YIELD (QT/HA)
Cereals	4.49	98.68	33.64	99.76	7.49
Teff	-	-	-	-	-
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	.06	1.32	**	**	**
Sorghum	4.43	97.36	33.50	99.35	7.56
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	**	**	**	**	**
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	**	**	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	**	**	NS	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	**	**	NS	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	4.55	100.00	33.72	100.00	7.41

APPENDIX I

ESTIMATION PROCEDURES OF TOTAL, RATIO AND SAMPLING ERRORS

APPENDIX I

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

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

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:

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

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

APPENDIX II

STANDARD ERRORS AND COEFFICIENT OF VARIATIONS FOR ESTIMATES

Table 3. Estimates of Area and Production, their Standard Error and Coefficient of Variation For Major Crops in 1997/98 (1990 E.C.), **AFAR**

TYPE OF CROPS	AREA ('000 HA)	S.E. ('000)	C.V. %	PRODUCTION ('000 QT)	S.E. ('000)	C.V. %
CEREALS	14.61	2.25	15.42	112.53	24.16	21.47
TEFF	4.66	1.18	25.30	21.99	5.13	23.34
BARELY	**	**	**	**	**	**
WHEAT	**	**	**	**	**	**
MAIZE	5.26	0.95	18.12	59.34	21.37	36.01
SORGHUM	4.31	0.73	16.99	27.75	5.27	18.98
MILLET	-	-	-	-	-	-
OATS	-	-	-	-	-	-
PULSES	0.80	0.32	40.24	1.67	0.70	42.00
HORSEBEANS	-	-	-	-	-	-
FILDEPEAS	-	-	-	-	-	-
HARICOATBEA	**	**	**	**	**	**
CHIKPEAS	0.33	0.11	32.83	1.28	0.55	43.14
LENTILS	**	**	**	-	-	-
VECTH	-	-	-	-	-	-
OTHERS	0.33	0.14	42.88	**	**	**
NEUG	**	**	**	-	-	-
LINSEED	-	-	-	-	-	-
RAPESEED	-	-	-	-	-	-
GROUNDNUTS	-	-	-	-	-	-
SUNFLOWER	0.15	0.06	41.73	**	**	**
SEASAME	0.18	0.09	46.90	**	**	**
FENUGREEK	-	-	-	-	-	-
ALLCROPS	15.74	2.57	16.30	114.44	24.31	21.25

Table 4. Estimates of Area and Production, their Standard Error and Coefficient of Variation For Major Crops in 1997/98 (1990 E.C.), **AMHARA**

TYPE OF CROPS	AREA ('000 HA)	S.E. ('000)	C.V. %	PRODUCTION ('000 QT)	S.E. ('000)	C.V. %
CEREALS	1,907.69	65.48	3.43	18,249.48	763.62	6.18
TEFF	744.40	40.33	5.42	5,189.98	356.15	6.86
BARELY	220.71	18.17	8.23	2,112.64	235.94	11.17
WHEAT	185.78	20.68	11.13	2,085.15	301.36	14.45
MAIZE	236.83	13.94	5.88	3,772.89	305.50	8.10
SORGHUM	352.60	30.83	8.74	3,590.35	420.72	11.72
MILLET	159.36	18.80	11.80	1,429.66	178.22	12.47
OATS	8.02	1.95	24.31	68.83	16.86	24.49
PULSES	385.80	33.66	8.72	2,899.55	259.48	8.95
HORSEBEANS	98.92	9.05	9.15	877.96	89.69	10.22
FILDEPEAS	44.55	5.55	12.47	263.19	32.67	12.41
HARICOATBEA	15.41	5.59	36.26	86.32	40.92	47.40
CHIKPEAS	108.05	14.45	13.37	865.18	138.09	15.96
LENTILS	18.23	4.61	25.29	149.65	61.28	40.95
VECTH	100.63	23.34	23.19	657.24	126.75	19.28
OTHERS	164.33	15.50	9.43	639.58	70.85	11.08
NEUG	105.16	12.82	12.19	389.72	52.43	13.45
LINSEED	28.74	5.05	17.59	94.23	18.63	19.77
RAPESEED	3.30	1.18	35.83	**	**	**
GROUNDNUTS	**	**	**	-	-	-
SUNFLOWER	2.88	0.74	25.55	10.89	5.39	49.52
SEASAME	11.13	4.80	43.07	**	**	**
FENUGREEK	13.03	3.49	26.77	91.20	27.59	30.25
ALLCROPS	2,457.83	86.48	3.52	21,788.61	894.06	4.10

Table 5. Estimates of Area and Production, their Standard Error and Coefficient of Variation For Major Crops in 1997/98 (1990 E.C.), **OROMIA**

TYPE OF CROPS	AREA ('000 HA)	S.E. ('000)	C.V. %	PRODUCTION ('000 QT)	S.E. ('000)	C.V. %
CEREALS	2,549.73	87.26	3.42	33,637.34	1,634.97	4.86
TEFF	729.53	43.63	5.98	6,072.24	450.54	7.42
BARELY	352.59	40.12	11.38	4,796.65	632.44	13.18
WHEAT	486.47	56.25	11.56	7,606.80	1,277.81	16.80
MAIZE	577.57	38.91	6.74	10,314.38	767.79	7.44
SORGHUM	326.70	25.70	7.87	4,123.95	369.78	8.97
MILLET	45.28	7.43	16.40	383.33	72.24	18.85
OATS	31.60	5.65	17.89	339.98	76.57	22.52
PULSES	340.99	23.64	6.93	3,045.89	267.20	8.77
HORSEBEANS	127.35	11.00	8.63	1,363.63	159.49	11.70
FILDEPEAS	51.91	7.16	13.80	470.37	99.68	21.19
HARICOATBEA	49.87	9.93	19.91	293.33	52.75	17.98
CHIKPEAS	51.63	11.29	21.86	438.96	97.30	22.17
LENTILS	25.10	6.96	27.72	136.01	47.79	35.14
VECTH	35.13	6.67	18.99	343.58	70.48	20.51
OTHERS	206.21	20.66	10.02	1,019.79	125.57	12.31
NEUG	72.09	12.79	17.75	279.02	54.95	19.69
LINSEED	99.68	13.81	13.85	539.59	105.63	19.58
RAPESEED	9.17	3.79	41.36	65.44	25.48	38.94
GROUNDNUTS	**	**	**	**	**	**
SUNFLOWER	**	**	**	**	**	**
SEASAME	**	**	**	**	**	**
FENUGREEK	15.25	6.30	41.32	67.01	22.60	33.73
ALLCROPS	3,096.94	102.82	3.32	37,703.02	1,757.80	4.66

Table 6. Estimates of Area and Production, their Standard Error and Coefficient of Variation For Major Crops in 1997/98 (1990 E.C.), **SOMALI**

TYPE OF CROPS	AREA ('000 HA)	S.E. ('000)	C.V. %	PRODUCTION ('000 QT)	S.E. ('000)	C.V. %
CEREALS	49.67	8.40	16.92	491.72	87.79	17.85
TEFF	**	**	**	-	-	-
BARELY	4.19	1.42	33.87	15.95	4.66	29.19
WHEAT	2.47	0.73	29.54	10.40	3.38	32.47
MAIZE	22.15	4.17	18.82	324.01	70.84	21.86
SORGHUM	20.65	5.39	26.12	141.36	40.81	28.87
MILLET	**	**	**	-	-	-
OATS	**	**	**	-	-	-
PULSES	1.45	0.67	46.24	**	**	**
HORSEBEANS	-	-	-	-	-	-
FILDEPEAS	**	**	**	-	-	-
HARICOATBEA	**	**	**	**	**	**
CHIKPEAS	**	**	**	**	**	**
LENTILS	**	**	**	-	-	-
VECTH	-	-	-	-	-	-
OTHERS	**	**	**	**	**	**
NEUG	-	-	-	-	-	-
LINSEED	**	**	**	**	**	**
RAPESEED	-	-	-	-	-	-
GROUNDNUTS	**	**	**	**	**	**
SUNFLOWER	-	-	-	-	-	-
SEASAME	**	**	**	-	-	-
FENUGREEK	**	**	**	**	**	**
ALLCROPS	51.49	8.61	16.73	506.71	90.52	17.86

Table 7. Estimates of Area and Production, their Standard Error and Coefficient of Variation For Major Crops in 1997/98 (1990 E.C.), **BENSHANGULE-GUMUZ**

TYPE OF CROPS	AREA ('000 HA)	S.E. ('000)	C.V. %	PRODUCTION ('000 QT)	S.E. ('000)	C.V. %
CEREALS	107.38	13.11	12.21	1,395.90	252.44	18.08
TEFF	22.98	4.55	19.81	173.80	56.01	32.23
BARELY	**	**	**	**	**	**
WHEAT	**	**	**	**	**	**
MAIZE	22.05	4.81	21.80	395.96	108.64	27.44
SORGHUM	45.83	5.76	12.57	637.80	117.65	18.45
MILLET	13.69	3.86	28.21	161.91	56.19	34.70
OATS	**	**	**	**	**	**
PULSES	5.85	1.48	25.35	35.05	9.81	27.98
HORSEBEANS	1.35	0.63	46.78	**	**	**
FILDEPEAS	**	**	**	**	**	**
HARICOATBEA	3.32	1.21	36.35	18.25	6.91	37.85
CHIKPEAS	**	**	**	**	**	**
LENTILS	**	**	**	**	**	**
VECTH	-	-	-	-	-	-
OTHERS	20.16	2.56	12.69	89.86	17.11	19.04
NEUG	14.74	2.40	16.26	56.54	12.70	22.45
LINSEED	0.24	0.09	38.74	**	**	**
RAPESEED	**	**	**	-	-	-
GROUNDNUTS	1.16	0.46	39.53	8.31	3.60	43.31
SUNFLOWER	**	**	**	**	**	**
SEASAME	4.02	1.00	24.99	24.75	8.59	34.70
FENUGREEK	**	**	**	-	-	-
ALLCROPS	133.39	15.81	11.85	1,520.80	270.48	17.79

Table 8. Estimates of Area and Production, their Standard Error and Coefficient of Variation For Major Crops in 1997/98 (1990 E.C.), **S.N.N.P.R.**

TYPE OF CROPS	AREA ('000 HA)	S.E. ('000)	C.V. %	PRODUCTION ('000 QT)	S.E. ('000)	C.V. %
CEREALS	478.55	36.31	7.59	6,420.05	564.01	8.79
TEFF	123.24	18.06	14.66	877.65	121.20	13.81
BARELY	49.97	10.80	21.60	505.75	110.58	21.86
WHEAT	66.95	7.46	11.15	960.71	108.17	11.26
MAIZE	165.47	18.41	11.12	3,246.38	482.91	14.88
SORGHUM	69.59	6.79	9.76	807.46	89.76	11.12
MILLET	3.16	0.96	30.39	21.73	7.83	36.06
OATS	**	**	**	**	**	**
PULSES	70.71	6.93	9.80	542.47	61.85	11.40
HORSEBEANS	30.01	3.51	11.71	251.14	32.04	12.76
FILDEPEAS	18.53	3.36	18.13	149.44	37.32	24.98
HARICOATBEA	18.42	3.97	21.55	122.62	27.99	22.82
CHIKPEAS	3.00	0.87	29.01	16.15	8.05	49.82
LENTILS	0.20	0.09	43.03	**	**	**
VECTH	**	**	**	**	**	**
OTHERS	2.32	0.73	31.26	10.55	4.41	41.78
NEUG	**	**	**	**	**	**
LINSEED	**	**	**	**	**	**
RAPESEED	0.20	0.10	49.89	**	**	**
GROUNDNUTS	-	-	-	-	-	-
SUNFLOWER	0.23	0.08	33.99	**	**	**
SEASAME	**	**	**	**	**	**
FENUGREEK	**	**	**	**	**	**
ALLCROPS	551.58	38.50	6.98	6,973.06	574.25	8.24

Table 9. Estimates of Area and Production, their Standard Error and Coefficient of Variation For Major Crops in 1997/98 (1990 E.C.), GAMBELA

TYPE OF CROPS	AREA ('000 HA)	S.E. ('000)	C.V. %	PRODUCTION ('000 QT)	S.E. ('000)	C.V. %
CEREALS	12.36	3.61	29.22	260.74	95.57	36.65
TEFF	**	**	**	**	**	**
BARELY	**	**	**	**	**	**
WHEAT	-	-	-	-	-	-
MAIZE	9.00	3.58	39.76	216.42	97.61	45.10
SORGHUM	3.29	0.93	28.38	43.84	14.83	33.83
MILLET	**	**	**	**	**	**
OATS	-	-	-	-	-	-
PULSES	**	**	**	**	**	**
HORSEBEANS	-	-	-	-	-	-
FILDEPEAS	-	-	-	-	-	-
HARICOATBEA	**	**	**	**	**	**
CHIKPEAS	-	-	-	-	-	-
LENTILS	-	-	-	-	-	-
VECTH	-	-	-	-	-	-
OTHERS	**	**	**	**	**	**
NEUG	-	-	-	-	-	-
LINSEED	-	-	-	-	-	-
RAPESEED	-	-	-	-	-	-
GROUNDNUTS	**	**	**	**	**	**
SUNFLOWER	-	-	-	-	-	-
SEASAME	**	**	**	**	**	**
FENUGREEK	-	-	-	-	-	-
ALLCROPS	12.81	3.65	28.49	262.66	95.77	36.46

Table 10. Estimates of Area and Production, their Standard Error and Coefficient of Variation For Major Crops in 1997/98 (1990 E.C.), HARARI

TYPE OF CROPS	AREA ('000 HA)	S.E. ('000)	C.V. %	PRODUCTION ('000 QT)	S.E. ('000)	C.V. %
CEREALS	3.70	0.18	4.98	28.47	1.93	6.78
TEFF	-	-	-	-	-	-
BARELY	0.00	0.00	46.13	**	**	**
WHEAT	0.04	0.01	23.51	0.28	0.12	42.53
MAIZE	0.67	0.05	7.93	5.34	0.65	12.14
SORGHUM	2.99	0.16	5.23	22.84	1.52	6.64
MILLET	-	-	-	-	-	-
OATS	**	**	**	-	-	-
PULSES	0.00	0.00	40.34	-	-	-
HORSEBEANS	-	-	-	-	-	-
FILDEPEAS	**	**	**	-	-	-
HARICOATBEA	-	-	-	-	-	-
CHIKPEAS	-	-	-	-	-	-
LENTILS	-	-	-	-	-	-
VECTH	-	-	-	-	-	-
OTHERS	0.74	0.13	17.27	4.49	1.06	23.67
NEUG	-	-	-	-	-	-
LINSEED	-	-	-	-	-	-
RAPESEED	-	-	-	-	-	-
GROUNDNUTS	0.74	0.13	17.27	4.49	1.06	23.67
SUNFLOWER	-	-	-	-	-	-
SEASAME	-	-	-	-	-	-
FENUGREEK	-	-	-	-	-	-
ALLCROPS	4.44	0.27	5.97	32.96	2.35	7.14

Table 11. Estimates of Area and Production, their Standard Error and Coefficient of Variation For Major Crops in 1997/98 (1990 E.C.), **ADDIS ABABA**

TYPE OF CROPS	AREA ('000 HA)	S.E. ('000)	C.V. %	PRODUCTION ('000 QT)	S.E. ('000)	C.V. %
CEREALS	5.34	0.97	18.26	73.62	12.61	17.13
TEFF	2.99	0.69	23.05	38.04	8.03	21.11
BARELY	**	**	**	**	**	**
WHEAT	2.15	0.33	15.16	33.53	5.19	15.47
MAIZE	0.00	0.00	39.23	0.00	0.00	******
SORGHUM	**	**	**	**	**	**
MILLET	-	-	-	0.00	0.00	******
OATS	0.01	0.00	44.80	0.10	0.05	48.50
PULSES	1.54	0.40	26.14	16.46	5.02	30.50
HORSEBEANS	**	**	**	**	**	**
FILDEPEAS	**	**	**	-	-	-
HARICOATBEA	**	**	**	-	-	-
CHIKPEAS	0.49	0.14	27.90	6.07	1.80	29.64
LENTILS	0.32	0.07	21.30	1.05	0.28	26.38
VECTH	0.66	0.24	36.33	8.74	3.18	36.37
OTHERS	0.14	0.03	21.28	0.85	0.20	24.04
NEUG	-	-	-	**	**	**
LINSEED	**	**	**	**	**	**
RAPESEED	-	-	-	-	-	-
GROUNDNUTS	-	-	-	-	-	-
SUNFLOWER	-	-	-	-	-	-
SEASAME	-	-	-	-	-	-
FENUGREEK	0.12	0.03	24.63	0.78	0.21	26.98
ALLCROPS	7.01	1.36	19.34	90.93	17.34	19.07

Table 12. Estimates of Area and Production, their Standard Error and Coefficient of Variation For Major Crops in 1997/98 (1990 E.C.), **DIRE DAWA**

TYPE OF CROPS	AREA ('000 HA)	S.E. ('000)	C.V. %	PRODUCTION ('000 QT)	S.E. ('000)	C.V. %
CEREALS	4.49	0.58	12.94	33.64	3.97	11.79
TEFF	-	-	-	-	-	-
BARELY	-	-	-	-	-	-
WHEAT	-	-	-	-	-	-
MAIZE	0.06	0.02	33.33	**	**	**
SORGHUM	4.43	0.58	13.10	33.50	4.00	11.94
MILLET	-	-	-	-	-	-
OATS	-	-	-	-	-	-
PULSES	**	**	**	**	**	**
HORSEBEANS	-	-	-	-	-	-
FILDEPEAS	-	-	-	-	-	-
HARICOATBEA	**	**	**	**	**	**
CHIKPEAS	-	-	-	-	-	-
LENTILS	-	-	-	-	-	-
VECTH	-	-	-	-	-	-
OTHERS	**	**	**	-	-	-
NEUG	-	-	-	-	-	-
LINSEED	-	-	-	-	-	-
RAPESEED	-	-	-	-	-	-
GROUNDNUTS	**	**	**	-	-	-
SUNFLOWER	-	-	-	-	-	-
SEASAME	-	-	-	-	-	-
FENUGREEK	-	-	-	-	-	-
ALLCROPS	4.55	0.58	12.72	33.72	3.94	11.70

APPENDIX III

- NUMBER OF EAs SAMPLED AND COVERED
- NUMBER OF HOUSEHOLDS EXPECTED TO BE COVERED AND ACTUALLY COVERED
- NUMBER OF PARCELS AND FIELDS MEASURED
- NUMBER OF CROP-CUTTINGS CONDUCTED

APPENDIX III

REGION	REPORTING LEVEL	NUMBER OF EAs SAMPLED	NUMBER OF EAs COVERED	NUMBER OF HOUSEHOLDS EXPECTED TO BE COVERED	NUMBER OF HOUSEHOLDS COVERED	NUMBER OF PARCELS	NUMBER OF FIELDS MEASURED	NUMBER OF CROP-CUTTINGS
TIGRAY	WEST TIGRAY	25	15	625	330	1023	1585	584
	CENTRAL TIGRAY	25	23	625	524	1997	3111	1263
	EAST TIGRAY	25	23	625	499	1705	3046	1072
	SOUTH TIGRAY	25	22	625	470	1746	2144	801
	TOTAL	100	83	2500	1823	6471	9886	3720
AFAR	ZONE 1	20	20	500	485	899	961	76
	ZONE 3	20	15	500	339	774	1203	386
	ZONE 5	20	2	500	50	97	144	58
	TOTAL	60	37	1500	874	1770	2308	520
AMHARA	NORTH GONDER	30	30	750	737	2702	4578	1577
	SOUTH GONDER	30	30	750	738	2847	4609	1638
	NORTH WOLO	30	30	750	750	2383	3625	1244
	SOUTH WOLO	30	31	750	730	2774	4226	1422
	NORTH SHOA	30	28	750	701	3049	4371	1077
	EAST GOJAM	30	30	750	717	3071	4615	1597
	WEST GOJAM	30	30	750	748	3231	4794	1513
	WAG-HAMRA	25	25	625	625	2087	2765	1049
	AGEWAWI	25	25	625	625	2158	3500	1102
	OROMIA ZONE	25	25	625	625	1622	2300	609
	TOTAL	285	284	7125	7026	25924	39383	12828

REGION	REPORTING LEVEL	NUMBER OF EAs SAMPLED	NUMBER OF EAs COVERED	NUMBER OF HOUSEHOLDS EXPECTED TO BE COVERED	NUMBER OF HOUSEHOLDS COVERED	NUMBER OF PARCELS	NUMBER OF FIELDS MEASURED	NUMBER OF CROP-CUTTINGS
OROMIYA	WEST WELLEGA	30	30	750	750	2813	5791	1597
	EAST WELLEGA	30	30	750	710	2543	4873	1688
	ILLUBABOR	30	30	750	750	1811	4017	1031
	JIMMA	30	30	750	750	2484	5663	1237
	WEST SHOA	30	30	750	730	2922	4955	1432
	NORTH SHOA	30	30	750	710	3413	5053	1297
	EAST SHOA	30	29	750	484	1548	3008	553
	ARSI	30	30	750	708	2832	4871	1364
	WEST HARARGE	30	30	750	623	1648	2344	751
	EAST HARARGE	30	30	750	650	1756	2483	712
	BALE	30	30	750	729	2560	4893	1196
	BORENA	30	29	750	669	1132	2284	474
	TOTAL	360	358	9000	8263	27462	50235	13332
SOMALIE	SHINILE	20	18	500	399	682	889	97
	JIJIGA	20	20	500	428	1046	1557	418
	MOYALE	20	19	500	442	745	949	235
	TOTAL	60	57	1500	1269	2473	3395	750
B.GUMUZ	METEKEL	25	23	625	575	1775	2879	938
	ASSOSA	25	21	625	525	2584	3611	1120
	KEMASHI	25	22	625	540	1248	2002	698
	TOTAL	75	66	1875	1640	5607	8492	2756

REGION	REPORTING LEVEL	NUMBER OF EAs SAMPLED	NUMBER OF EAs COVERED	NUMBER OF HOUSEHOLDS EXPECTED TO BE COVERED	NUMBER OF HOUSEHOLDS COVERED	NUMBER OF PARCELS	NUMBER OF FIELDS MEASURED	NUMBER OF CROP-CUTTINGS
SNNPR	GURAGE	30	24	750	549	1347	3523	582
	HADIYA	30	30	750	679	1409	4606	1087
	KEM,ALA,TIM	30	25	750	575	1073	3842	773
	SIDAMA	30	30	750	749	1115	3398	290
	GEDIO	30	30	750	745	1356	2529	291
	NORTH OMO	30	30	750	750	1176	4088	770
	SOUTH OMO	30	26	750	639	1256	2158	289
	KE-SHEKICHO	30	30	750	740	1656	3866	810
	BENCH-MAJI	25	25	625	609	1314	2902	478
	YEM SP.WER	15	15	375	375	1427	2766	749
	AMARO SP.WER	15	14	375	335	608	1210	186
	BURJI SP.WER	15	15	375	375	706	1593	394
	KONSO SP.WER	15	15	375	375	721	1019	247
	DERASHE SP.W	15	15	375	350	717	1163	309
	TOTAL	340	324	8500	7845	15881	38663	7255
GAMBELA	**GAMBELA**	25	25	625	621	1151	2127	401
HARARI	**HARARI**	65	65	4225	4162	10022	12728	3535
A.A	**ADDIS ABABA**	25	25	625	623	2167	3332	983
D.D	**DIRE DAWA**	25	25	625	624	1382	1588	313
	GRAND TOTAL	1420	1349	38100	34770	100310	172137	46393