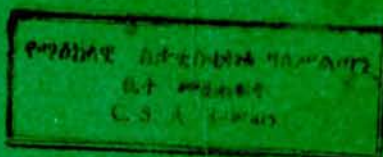


*THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA*

*CENTRAL STATISTICAL AUTHORITY*



*AGRICULTURAL SAMPLE SURVEY 1998/99 (1991 E.C.)*  
*(September 15 - October 5, 1998)*

*REPORT ON*

**FORECAST OF AREA AND PRODUCTION OF  
MAJOR CROPS**

(For Private Peasant Holdings)

Addis Ababa  
NOVEMBER 10, 1998

*THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA*

*CENTRAL STATISTICAL AUTHORITY*

***AGRICULTURAL SAMPLE SURVEY 1998/99 (1991 E.C.)***  
*(September 15 - October 5, 1998)*

***REPORT ON***

***FORECAST OF AREA AND PRODUCTION OF  
MAJOR CROPS***

*(For Private Peasant Holdings)*

*Addis Ababa  
NOVEMBER 10, 1998*

## Contents

	<u>Page</u>
List of Tables .....	II
List of Figures .....	V
<b>PART I. INTRODUCTION AND OBJECTIVES OF THE SURVEY.....</b>	<b>1-2</b>
1. INTRODUCTION.....	1
2. OBJECTIVES OF THE SURVEY.....	2
<b>PART II. SURVEY METHODOLOGY, DATA COLLECTION AND           PROCESSING .....</b>	<b>3-12</b>
1. SCOPE, COVERAGE AND CONTENT OF THE SURVEY.....	3
2. SAMPLE DESIGN.....	5
3. FIELD ORGANIZATION.....	6
4. TRAINING OF FIELD STAFF.....	6
5. METHOD OF DATA COLLECTION AND CROP PRODUCTION FORECASTING.....	7
6. EDITING, CODING AND VERIFICATION.....	9
7. DATA ENTRY, CLEANING AND PROCESSING.....	10
8. BASIC CONCEPTS AND DEFINITIONS.....	10
<b>PART III. SUMMARY OF RESULTS OF THE 1998/99 (1991 E.C.)           CROP PRODUCTION FORECAST SURVEY.....</b>	<b>13-57</b>
Appendix I. ....	59
Appendix II. ....	65
Appendix III. ....	73

LIST OF TABLES

	<u>Page</u>
Table 1. Forecast of 1998/99 (1991 E.C.) and estimates of 1997/98 (1990 E.C.) of area, production and yield of major crops for private holdings in Ethiopia by Region (Meher Season), .....	19
Table 2. Forecast of 1998/99 (1991 E.C.) and estimates of 1997/98 (1990 E.C.) of area, production and yield of major crops for private holdings, in Ethiopia (Meher Season), .....	21
Table 3. Forecast of area, production and yield of major crops for private holdings in Ethiopia, (Meher Season) (1998/99 (1991 E.C.) .....	23
Table 4. TIGRAY .....	25
Table 4.1 West Tigray Zone .....	25
Table 4.2 Central Tigray Zone .....	27
Table 4.3 East Tigray Zone .....	27
Table 4.4 South Tigray Zone .....	28
Table 5. AFAR .....	29
Table 5.1 Zone 1 .....	29
Table 5.2 Zone 3 .....	30
Table 5.3 Zone 5 .....	30
Table 6. AMHARA .....	31
Table 6.1 North Gonder Zone .....	31
Table 6.2 South Gonder Zone .....	32
Table 6.3 North Wolo Zone .....	32
Table 6.4 South Wolo Zone .....	33
Table 6.5 North Shewa Zone .....	33

	<u>Page</u>
Table 6.6 East Gojam Zone .....	34
Table 6.7 West Gojam Zone .....	34
Table 6.8 Waghamera Zone .....	35
Table 6.9 Agewawi Zone .....	35
Table 6.10 Oromia Zone .....	36
Table 7. OROMIA .....	37
Table 7.1 West Wellega Zone .....	37
Table 7.2 East Wellega Zone .....	38
Table 7.3 Illubabor Zone .....	38
Table 7.4 Jimma Zone .....	39
Table 7.5 West Shewa Zone .....	39
Table 7.6 North Shewa Zone .....	40
Table 7.7 East Shewa Zone .....	40
Table 7.8 Arsi Zone .....	41
Table 7.9 West Harerge Zone .....	41
Table 7.10 East Harerge Zone .....	42
Table 7.11 Bale Zone .....	42
Table 7.12 Borena Zone .....	43
Table 8. SOMALE .....	44
Table 8.1 Shinele Zone .....	44
Table 8.2 Jijiga Zone .....	45
Table 8.3 Moyale Zone .....	45
Table 9. BENSANGUL-GUMUZ .....	46
Table 9.1 Metekel Zone .....	46
Table 9.2 Asosa Zone .....	47
Table 9.10 Kemeshi Zone .....	47
Table 10. S.N.N.P.R .....	48
Table 10.1 Gurage Zone .....	48
Table 10.2 Hadiya Zone .....	49
Table 10.3 Kembata Alaba Tembaro Zone .....	49

Table 10.4	Sidama Zone .....	50
Table 10.5	Gedio Zone .....	50
Table 10.6	North Omo Zone .....	51
Table 10.7	South Omo Zone .....	51
Table 10.8	Keficho-Shekicho Zone .....	52
Table 10.9	Bench-Maje Zone .....	52
Table 10.10	Yem Special Wereda Zone .....	53
Table 10.11	Amaro Special Wereda Zone .....	53
Table 10.12	Burji Special Wereda Zone .....	54
Table 10.13	Konso Special Wereda Zone .....	54
Table 10.14	Derashe Special Wereda Zone .....	55
Table 11.	GAMBELA .....	56
Table 12.	HARARI .....	56
Table 13.	ADDIS ABABA .....	57
Table 14.	DIRE DAWA .....	57

LIST OF FIGURES

	<u>Page</u>
Fig.1	Forecast of area under major crops for private peasant holdings in Ethiopia (Meher Season) 1998/1999 (1991 E.C.) ..... 15
Fig.2	Forecast of expected production of major crops for private peasant holdings in Ethiopia (Meher Season) 1998/1999 (1991 E.C.) ..... 17
Fig.3	Forecast of 1998/1999 and Estimates of 1997/98 area of major crops for private holdings in Ethiopia by Region (Meher Season) ..... 20
Fig.4	Forecast of 1998/1999 and Estimates of 1997/98 Production of major crops for private holdins in Ethiopia by Region (Meher Season) ..... 22
Fig.5	Forecast of 1998/99 and estimates of 1997/98 area and production of major crops for private holdings in Ethiopia (Meher Season) ..... 23
Fig. 6	Forecast of 1998/99 and estimates of 1997/98 of yield for cereals, pulses, others and all crops for private holdings in Ethiopia (Meher Season) ..... 24
Fig.7	Forecast of yield for cereals, pulses, others and all crops for private holdings in Ethiopia, by region (Meher Season) 1998/1999 E.C.) ..... 26

## PART I

### INTRODUCTION AND OBJECTIVE OF THE SURVEY

#### 1. INTRODUCTION

In Ethiopia, the agriculture sector is the backbone of the nation's economy. This sector continues to be extremely important, contributing about 55 percent to the national GDP, 60 percent to merchandise exports and 80 percent to the population's employment (World Bank, 1995). Besides its contribution as the main income generating sector for the majority of the rural population, it also serves as the main source for household consumption .

Food availability for the majority of Ethiopians continues to be determined by its domestic crop production. Therefore, timely crop production forecast estimates prior to harvest are of great importance and interest to government agencies and non-government donor organizations. Accurate and objective estimates for use by these organizations for planning purposes are essential. Timeliness of the estimates is of the utmost importance for these organizations to take all necessary and appropriate measures, i.e. administering exports or imports, management of stocks and distribution of food to deficit regions, regulation of price control both during periods of surplus and/or deficits, ... etc.

A forecast of crop production can be defined as a statement of the most probable production of the crop which can be obtained from the coming harvest given reasonable expectations for normal growing conditions through the harvest period.

The Central Statistical Authority (CSA) has been conducting crop production forecast surveys annually, since 1980/81 (1973 E.C.). The crop forecast estimates are based on data collected from

producers (farmers) using scientifically accepted probability sampling methodology subject to the conditions and expectations for harvest at the time of data collection from 10 September through 10 October 1998 (i.e from Meskerem 1 to 30 ,1991 E.C.)

This report presents basic information of crop production forecasts for 1998/99 (1991 E.C.), i.e. for Meher season harvest, and indicates the area coverage and expected production of major crops for the coming harvest at the national, regional as well as zonal/special wereda levels.

## 2. OBJECTIVES OF THE SURVEY

The objectives of the crop production forecast survey is to collect basic quantitative information on area and expected production of major crops. Timely estimates made from this quantitative information that indicate the expected production of the 1998/99 (1991 E.C.) Meher (Main) Season crops prior to their harvest are considered to be essential for policy makers and administrators to prepare policies and for implementation of timely measures such as administering exports or imports of crops, management of stocks and distributing of food to different regions, regulation of crop prices at the time of surplus and/or deficits, ... etc.

**PART II**  
**SURVEY METHODOLOGY, DATA COLLECTION**  
**AND PROCESSING**

**1. SCOPE, COVERAGE AND CONTENT OF THE SURVEY**

The 1998/99 (1991 E.C.) annual crop production forecast survey was designed to cover **the sedentary rural** agricultural population in all regions of the country. This coverage encompasses a total of four regions, 44 zones and five special weredas which were designated in the sampling design as the area basis to be domains /reporting levels for the survey. The geographic coverage of the survey is given in Table A.

The original sample selected totaled 1450 enumeration areas (EAs). These EAs were selected at the zonal level to be enumerated for the survey to provide specific coverage within all regions. For this report, however, the number of "useable" EAs which were completed and acceptable for tabulation, totaled 1409 EAs. The remaining EAs were incomplete and unusable due to various reasons. In each EA a sample of 40 agricultural households were selected in which 25 households were interviewed for the forecast survey which resulted in a total of 35225 sample households. The forecast estimates of area under crops are obtained from a sub-sample of the first 10 households out of the 40 selected from each EA.

**TABLE A. AREAL COVERAGE OF THE 1998/99 (1991 E.C.) CROP  
PRODUCTION FORECAST SURVEY**

Region	Number of Zones		Number of Weredas	
	Total	Covered in the Survey	Planned to be covered in the survey	Covered in the survey
Tigray <sup>1</sup>	4	4	33	33
Afar <sup>2</sup>	5	3	8	7
Amhara	10	10	93	93
Oromia	12	12	171	170
Somalie <sup>3</sup>	9	3	9	9
Benshangul Gumez	3	3	19	19
S.N.N.P.R.	14	14	74	74
Gambela	4	3	5	4
Harari	1	1	1	1
Addis Ababa <sup>4</sup>	6	2	5	5
Dire Dawa	1	1	1	1
Total	69	56	419	416

**Notes:-**

- 1 - In Tigray Region, four out of five zones have rural settled population.
- 2 - Afar Region has a total of five zones, however only three zones have significant rural sedentary population.
- 3 - SOMALIE Region has a total of nine zones, however only three zones have significant rural sedentary population.
- 4 - Addis Ababa has a total of six zones, however, only two zones have rural settled population. In the remaining four zones the entire population is urban residents.

---

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

## 2. SAMPLE DESIGN

The 1998/99 (1991 E.C.) crop production forecast survey covered the rural part of the country except two zones in Afar region and six zones in Somalie region that are predominantly nomadic. A two-stage stratified sample design was used to select the sample. Each zone /special wereda was adopted as stratum for which major findings of the survey are reported. But each of the four regions; namely, Gambela, Harari, Addis Ababa and Dire Dawa were considered as strata /reporting levels. The primary sampling units (PSUs) were enumeration areas (EAs) and agricultural households were the secondary sampling units. The survey questionnaires were administered to all agricultural holders within the sample households. A fixed number of sample EAs was determined for each stratum /reporting level based on precision of major estimates and cost considerations. Within each stratum EAs were selected using probability proportional to size; size being total number of households in the EAs as obtained from the 1994 population and housing census. From each sample EA, 40 agricultural households were systematically selected for the annual livestock survey from a fresh list of households prepared at the beginning of the field work of the survey. For the crop forecast survey, data on crop condition factors were collected from the first 25 agricultural households and for the area measurement of the survey, the first ten sample households were selected to be covered.

A total of 1,450 EAs (2.9 % of total EAs in the rural areas of the country) were selected for the survey. However, 28 EAs were closed due to different factors that are beyond the control of the Authority and from 13 EAs forecast data were not collected for various reasons such as flooding of the area, temporary movements of the households from the EA, ...etc. Hence the survey succeeded in covering 1409 (97.2%) EAs. With respect to ultimate sampling units, for the crop forecast survey, it was planned to cover 14,500 and 36,250 agricultural households for area measurement and crop condition factor, respectively. Estimation procedures of parameters of interest (total and ratio) and their sampling error is presented

in Appendix I. Distribution of the number of sampling units sampled and covered by strata is given in Appendix III.

### 3. FIELD ORGANIZATION

The Heads of CSA Branch Statistical Offices as well as field supervisors and enumerators were fully involved in the administration of the Agricultural Sample Survey. At any given time during the survey there were 1595 (including 10% reserves) field enumerators stationed across the country collecting data. One field enumerator is assigned to each of the selected EA. A supervisor is assigned to closely follow up the work of 4-5 enumerators. Moreover, experts from the CSA's headquarters, other support staff were involved in the survey operation.

For all field enumerators the necessary survey equipment such as compass, protractors, ruler, measuring tape, balance scale, iron pegs, rope, sample bag, ... etc. were issued at the conclusion of their training to facilitate the field work and crop cutting exercises later in the season at harvest time.

### 4. TRAINING OF FIELD STAFF

Preparation for the Agricultural Sample Survey required considerable planning and acquisition of all relevant materials. These included the training of personnel, procurement of equipment, designing and printing of questionnaires, as well as enumerator's and supervisor's instruction manuals.

The training program for the survey was carried out in two stages. In the first stage, about 85 trainees who are experts in various disciplines in headquarter, Branch Statistical Office Heads, and a few experienced field supervisors were given training for a period of one week, at CSA headquarter. Those trained in the first stage conducted similar training for field supervisors and 1595 field enumerators in the 15 CSA Branch Statistical Offices all over the

country. The content of the training document focused on specific details pertaining to the crop production survey, including detailed class room instruction on the purpose of the survey, terminology, concepts and definitions used for the survey, how to correctly complete each questionnaire, description of field area measurement methodology, detailed discussion on all aspects used for crop cutting measurement, and correct procedures for conducting an interview with holders ...etc. The training at the branch offices was conducted for a period of two weeks and included thorough field practices to reinforce the classroom lectures and to insure that each enumerator was thoroughly familiar with interviewing holders, field measurement and crop cutting procedures.

## 5. METHOD OF DATA COLLECTION AND CROP

### PRODUCTION FORECASTING

#### i. Method of Data Collection

The data collected from holders for the crop production forecast estimates consisted of both subjective questions obtained through direct interviews pertaining to the nature of production expectations and objective methodologies associated with field measurement. The cultivated crop field area measurement data are collected objectively by measuring all cropped fields under temporary and permanent crops using compasses and measuring tapes (see **Appendix III** for the total number of fields measured). For forecast survey purposes only area under major temporary crops are being published. These crop forecast production estimates are calculated from data collected directly from the sampled holder or producer based on the "condition" of the holder's crops surveyed, i.e., percentage change on the expected increase or decrease of yield for the coming harvest, as compared to last year's yield. The enumerator is trained to ask this question on percentage change using the local translation and meaning. The enumerator is also trained in how to use comparative associations to represent the concept of percentage change in units to the holder in such a way

that the enumerator can calculate the percentage change and enter it on the questionnaire.

This forecast estimation procedure has proven successful in past years and also avoids the serious problems in Ethiopia of using many different local units of measurements that farmer could otherwise report an absolute yield. This subjective data on percentage yield change is recorded on the questionnaire for each temporary crop by interviewing all holders within selected 25 households in each enumeration area.

#### ii. Method of Crop Production Forecasting

The crop production forecast for 1998/99 (1991 E.C.) is based on what could be considered a three component production "models". The first component production "model" is the survey's direct expansion estimate of the actual cultivated area (obtained from the objectively measured fields during the September-October field data collection period). The second component production uses last year's Meher (Main) Season crop yield estimate obtained from objectively collected crop cuttings. The third component production is the average "condition" factor which estimates the yield of this year's crop comparing with the previous year.

All specific conditions (such as weather, pest damage, ... etc.) affecting the crop growth for the rest of the current season have been taken into account by the holders in these "condition" factors and represents the holder's own subjective estimate on the future field production. Forecast estimates are published for all major temporary crops for which objective area field measurements were performed.

#### iii. Main Factors which Influence the Expected Crop Production

In order for the holder to intuitively formulate the future production of his field crop production there are numerous factors

subjectively assessed. Besides the meteorological factor, there are a number of other factors that influence production and yield of major crops. These are:

a. Reason for expected decrease

- too much rain fall and lodging of the crop,
- shortage of rain fall,
- insect (locust), disease and other pest (birds) damage,
- hail and frost damage,
- wild and domestic animal damage,
- shortage of seed,
- depletion of the soil fertility and
- others.

b. Reason for expected increase

- favorable weather conditions,
- improved seed and cultural practices,
- application of fertilizers,
- application of pesticides (absence of pests) and
- others.

## 6. DATA EDITING, CODING AND VERIFICATION

The Agricultural Sample Survey editing and coding instruction manuals were prepared and printed prior to training. Before receipt of the completed questionnaires from the branch offices, the CSA regular editor/coder staff were given one full day of intensive training on proper questionnaire review techniques. Instructions and rules associated with correctly coding the questionnaire and correcting inconsistent records were thoroughly taught. In order to undertake this task at CSA headquarters a total of 70 editors/coders were involved.

During the coding process, several of the professional staff members were assigned to guide and supervise the editors/coders in correction of the difficult problems on the filled-in

questionnaire. These technical experts were also involved in answering questions, clear doubts... etc. so as to facilitate the editing and coding activity. Each editor/coder was assigned to work on a single EA at a time to assure that all questionnaires were accounted for and completed. Next the edited and coded questionnaires were checked by about 30 supervisors/verifiers. All EAs were included in this final verification process.

## 7. DATA ENTRY, CLEANING AND PROCESSING

The data entry process deployed about 45 data encoders and as many personal computers. The data was entered in the PCs using IMPS (Integrated Microcomputer Processing System) software which is a software package developed by the United States Bureau of the Census. Following data entry the data was further reviewed for data inconsistencies, missing data, reasonableness... etc. Five of the regular professional staff from Agricultural Statistics Department and six computer operators skilled in data cleaning from Data Processing Department fully participated to make appropriate data cleaning according to the output of the edit program. The final stage of the data processing was to summarize the cleaned data using the PC based IMPS software. The summary tables required reformatting and merging with the report text file for publication purposes. Three programmers were responsible for all of the data processing activity.

## 8. BASIC CONCEPTS AND DEFINITIONS

The concepts and definitions used in the survey are described as follows:

**Enumeration Area (EA):** Is the survey primary sampling unit classified as located in the rural area of the Country which is less than or equal to a Peasant's Association's area and usually consists of 150-200 households.

**Households:** A household may be either;

- a) a one person household, that is a person who makes provision for his own food or other essentials for living without combining with any other person to form part of a multi-person household, or
- b) a multi-person household, that is, a group of two or more persons who live together and make common provision for food or other essentials for living. The persons in the group may pool their incomes and have a common budget more or less. They may be related or unrelated persons, or a combination of both.

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

**Holder:** A holder is a person who exercises management control over the operations of the agricultural holdings and makes the major decisions regarding the utilization of the available resources. He has technical and economic responsibility for the holding. He may operate the holding directly as an owner or as a manager.

Using the terminology of a traditional agricultural holding the holder may be regarded as the person, who with or without help of others, operates land or raises livestock for his own purposes, i.e. the person who decides on what, when, where and how to grow crops or raise livestock and has right to determine the utilization of the products.

**Holding:** A holding is all the land and livestock kept which is used wholly or partially for agricultural production and is

operated as one administratively managed unit by one person alone, or with others, without regard to title, legal form, size or location. A holding may consist of one or more parcels.

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

**Field:** A field is defined as any plot of land within a parcel which can be whole or part of a parcel under the same cultural practice.

**Forecast of crop production:** It is an estimation of the future realization of final crop production growing under conditions which introduce a random variable which can cause an uncertainty as to what the final production at harvest will be.

## PART III

### SUMMARY OF THE RESULTS OF THE 1998/99 (1991 E.C.)

#### CROP PRODUCTION FORECAST SURVEY

In this part of the report are presented the estimate of area and crop production for the 1998/99 (1991 E.C.) crop production forecast survey at the national, regional, zonal and special wereda levels. Discussions of some of the major findings and important points of the survey result are given below.

Based on the data collected for the 1998/99 (1991 E.C.) crop production forecast survey results, it is estimated that about 8.07 **million hectares** are covered by **major crops**, of which in the coming harvest season it is expected that about 88.77 **million quintals** are to be produced resulting in a mean forecast yield of 11.00 **qt/ha**.

Out of the total land under major crops, the highest area, which is about 6.82 **million hectares** (84.68 %), and with expected production of 79.61 **million quintals** (89.62 %), with mean yield of 11.70 **qt/ha**, is reported for **cereals**, followed by **pulses**, with 0.82 **million hectares** (10.17 %) and 7.39 **million quintals** (8.32 %) with mean yield of 9.01 **qt/ha**, and then by **other crops (mainly oilseeds)** with 0.42 **million hectares** (5.21 %) and 1.77 **million quintals** (1.99 %), with mean yield of 4.21 **qt/ha**. See Table B.

It is important for data users to note that the objective of a probability sample survey is to make inferences about the true population value based on a sample drawn from that population. Statistical estimation can be separated into two forms: point estimates and interval estimates.

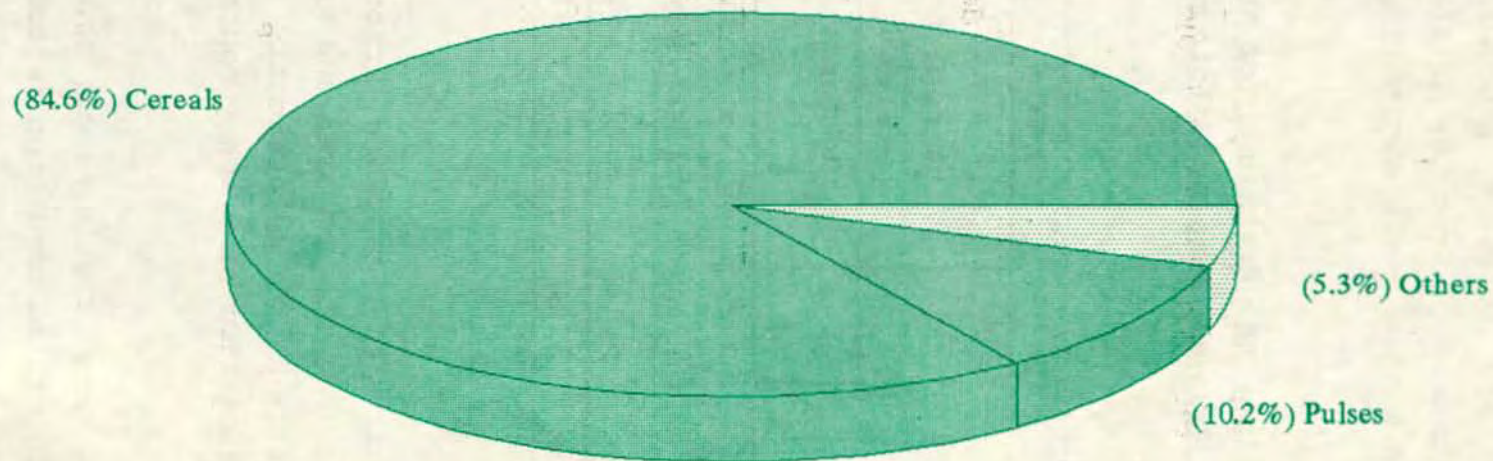
**Table B. Forecast of Area and Expected Production of Major Crops for Private Peasant Holdings in Ethiopia, 1998/99 (1991 E.C.)**

Crop type	Area		Production		Yield Qt/ha
	In million (ha.)	%	In million (qt.)	%	
Cereal	6.82	84.62	79.61	89.68	11.70
Pulses	0.82	10.17	7.39	8.32	9.01
Others	0.42	5.21	1.77	1.99	4.21
All Crops	8.06	100.00	88.77	100.00	11.00

For point estimates, where one value is computed on the real number scale derived from a sample of data elements, e.g.  $x_1, x_2, \dots, x_n$ , such that it is used to estimate the true population value of  $x$ . This point estimator is directly dependent on the individual values of the data which will vary with multiple samples. Thus the estimates in this report are point estimates of their respective true population values which would differ on the real number scale depending on the composition of the data elements for each subsequent survey sample.

To alleviate the problem of not knowing the true population value, statisticians use the second form of estimation, called interval estimation, where two points are used to define an interval on the real number scale, which should contain the true population value. Based on sample survey data this interval is constructed such that given a certain specified level of probability, the resulting confidence interval has a specific chance to contain the true population value. Again it is important to note that every sample will have its own unique confidence interval which also has a specific probability of containing the true population value.

FIG 1. FORECAST OF AREA UNDER MAJOR CROPS FOR PRIVATE PEASANT HOLDINGS IN ETHIOPIA (MEHER SEASON) 1998/99(1991 E.C.)



The interval estimates for Cereals, Pulses and Other crops (mainly oil seeds) on the results obtained from the sampled households in the selected EAs in the 1998/99 (1991 E.C.) Crop production forecast sample survey are presented in Table C. The confidence intervals are based on a probability such that, unless due to chance alone, the true population values would be expected to be contained within a 95% confidence interval.

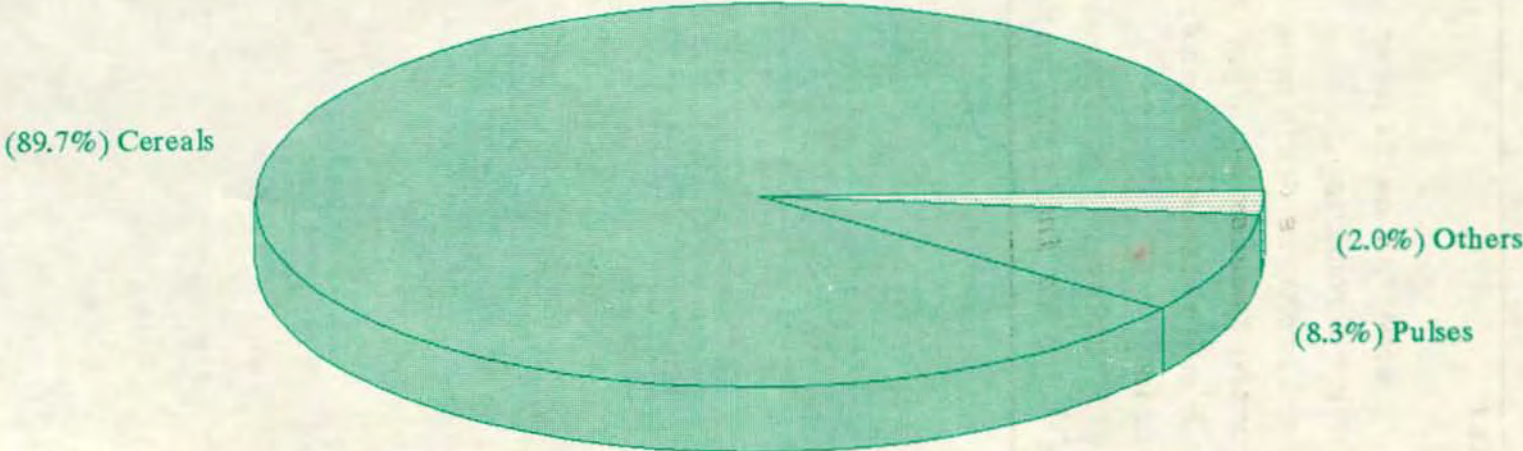
**Table C. Interval Estimates for Area and Production of Major Crops for Private Peasant Holdings in Ethiopia, 1998/99 (1991 E.C.)**

Crop type	Area		Production	
	CV	95 % confidence interval for area	CV	95 % confidence interval for production
	%	Hectares	%	Quintals
Cereals	2.22	6518090-7111770	2.98	748539000-84154980
pulses	4.50	747560-892330	5.68	6561000-8203650
Others	6.84	367330-481120	7.99	1491040-2044490
All crops	2.14	7720700-8397490	2.83	83737190-93571860

In Appendix II, standard error (SE) and the coefficient of variation (CV) for the area and crop production forecast estimates are presented. These estimates of the SE for production must be used with caution since they contain an unknown measure of forecast error.

Finally, users of this report should be aware that the information on what is called condition factors were collected in the months of September 1998 (Meskerem 1991 E.C.). Therefore, the results should be used with great caution in light of the favorable or adverse conditions of weather and other factors which may affect the crop

FIG 2. FORECAST OF PRODUCTION UNDER MAJOR CROPS FOR PRIVATE PEASANT HOLDINGS IN ETHIOPIA (MEHER SEASON) 1998/99(1991 E.C.)



after the crop production forecast survey data was collected . The effect of these subsequent changes in crop conditions are not reflected in this report.

**Note:-**

1. If in some tables figures do not add up to total it is due to rounding.
2. Those forecasts designated by "\*\*\*" in all tables could not be reported because of high coefficient of variation (i.e. they are less reliable). However they are consolidated in the total forecast.
3. In all tables "-" indicates not reported and "0.00" indicates the value is insignificant.

Table 1. Forecast of 1998/99 and Estimate of 1997/98 Area, Production and YIELD of major crops for peasant holdings in Ethiopia (Meher Season)

CROP TYPE	TOTAL AREA IN '000 HA			TOTAL PROD. IN '000 QTS			YIELD		
	Estimate's of 1997/98	Forecast of 1998/99	% age Change	Estimate's of 1997/98	Forecast of 1998/99	% age Change	Estimate's of 1997/98	Forecast of 1998/99	% age Change
CEREALS	5,601.88	6,821.86	21.78	64,987.83	79,610.44	22.50	11.60	11.67	0.59
Teff	1,747.19	2,083.19	19.23	13,073.48	16,688.84	27.65	7.48	8.01	7.06
Barley	681.95	817.37	19.86	7,863.95	9,417.01	19.75	11.53	11.52	-0.09
Wheat	787.72	1,040.41	32.08	11,067.85	14,042.53	26.88	14.05	13.50	-3.94
Maize	1,100.61	1,375.53	24.98	19,288.51	23,073.77	19.62	17.53	16.77	-4.28
Sorghum	954.74	1,053.76	10.37	10,697.40	12,382.05	15.75	11.20	11.75	4.87
Millet	289.74	406.19	40.19	2,587.05	3,539.72	36.82	8.93	8.71	-2.40
Oats	39.93	45.41	13.72	409.60	466.53	13.90	10.26	10.27	0.15
PULSES	837.61	820.99	-1.98	6,801.92	7,394.05	8.71	8.12	9.01	10.91
Horse Beans	266.30	307.02	15.29	2,596.67	3,089.22	18.97	9.75	10.06	3.19
Field Peas	119.88	144.09	20.20	927.25	1,175.36	26.76	7.73	8.16	5.46
Haricot Beans	92.19	131.37	42.50	548.46	943.18	71.97	5.95	7.18	20.68
Chick Peas	169.97	118.37	-30.36	1,371.33	1,170.02	-14.68	8.07	9.88	22.51
Lentils	47.09	52.26	10.98	310.79	354.61	14.10	6.60	6.79	2.81
Vetch	142.17	67.87	-52.26	1,047.44	661.67	-36.83	7.37	9.75	32.33
OTHERS	410.01	424.35	3.50	1,836.96	1,768.38	-3.73	4.48	4.17	-6.99
Neug	195.22	238.31	22.07	735.79	815.38	10.82	3.77	3.42	-9.22
Line seed	134.64	96.24	-28.52	663.46	440.23	-33.65	4.93	4.57	-7.17
Rapeseed	12.67	10.10	-20.28	86.94	99.64	14.61	6.86	9.87	43.77
Ground Nuts	11.02	15.21	38.02	77.76	69.58	-10.52	7.06	4.57	-35.17
Sunflower	3.33	4.21	26.43	12.57	25.85	105.65	3.77	6.14	62.66
Sesame	23.62	39.75	68.29	98.25	219.56	123.47	4.16	5.52	32.79
Fenugreek	29.51	20.53	-30.43	162.19	98.13	-39.50	5.50	4.78	-13.03
ALLCROPS	6,849.50	8,067.20	17.78	73,626.71	88,772.87	20.57	10.75	11.00	2.37

FIG 3. FORECAST OF 1998/99 AND ESTIMATES OF 1997/98 AREA OF MAJOR CROPS FOR PRIVATE HOLDINGS IN ETHIOPIA, REGION (MEHER SEASON)

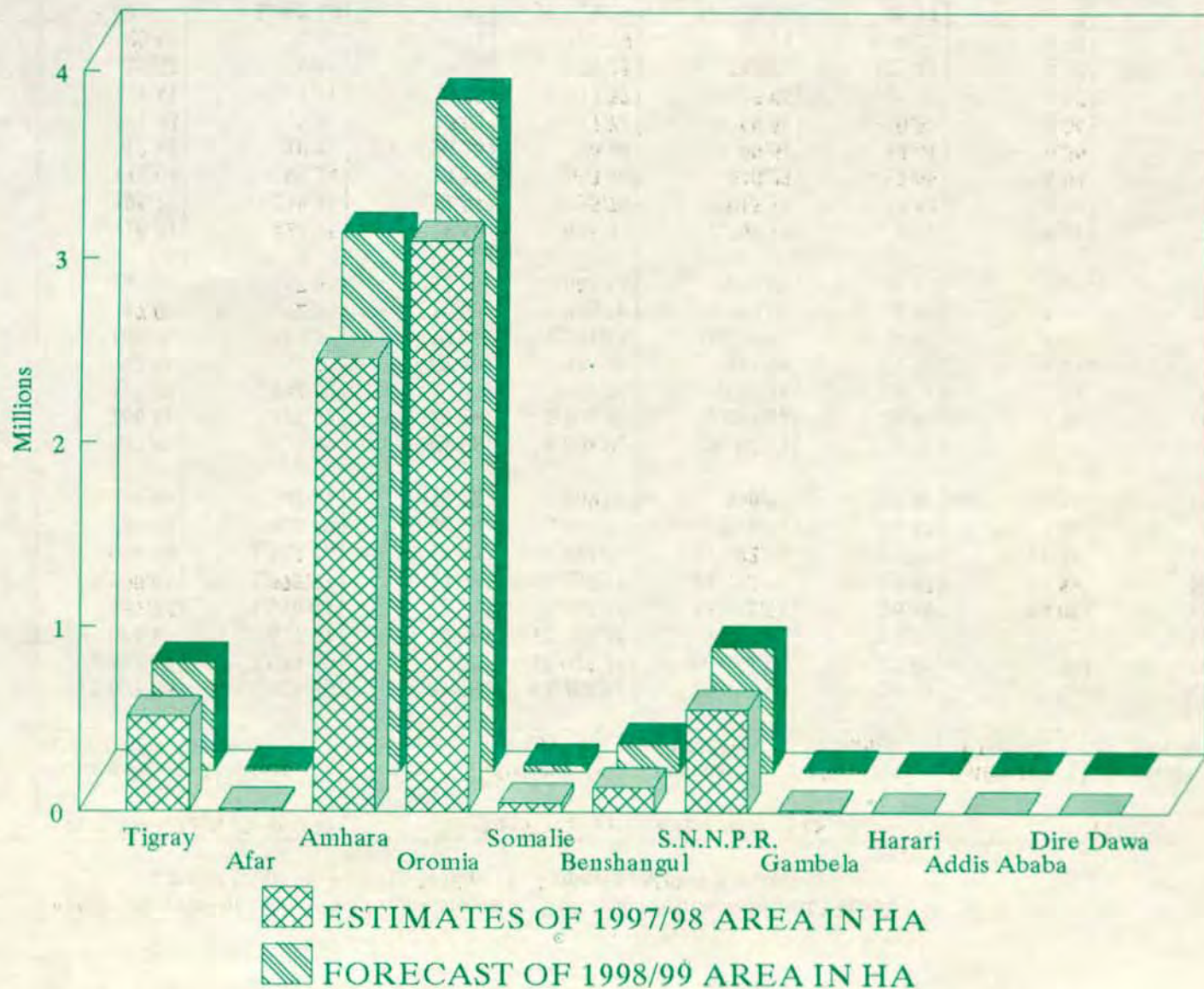


Table 2. Forecast of 1998/99 and Estimate of 1997/98 Area, Production and YIELD  
of major crops for peasant holdings in Ethiopia  
By Region (Meher Season)

Region	TOTAL AREA IN '000 HA			TOTAL PROD. IN '000 QTS			YIELD		
	Estimate's of 1997/98	Forecast of 1998/99	% age Change	Estimate's of 1997/98	Forecast of 1998/99	% age Change	Estimate's of 1997/98	Forecast of 1998/99	% age Change
Tigray	513.72	586.64	14.19	4,599.81	5,899.04	28.25	8.95	10.06	12.30
Afar	15.74	14.33	-8.96	114.44	93.06	-18.68	7.27	6.49	-10.68
Amhara	2,457.83	2,923.11	18.93	21,788.61	26,659.02	22.35	8.86	9.12	2.88
Oromiya	3,096.94	3,644.11	17.67	37,703.02	45,484.46	20.64	12.17	12.48	2.52
Somali	51.49	37.80	-26.59	506.71	233.00	-54.02	9.84	6.16	-37.36
Benshangul	133.39	151.69	13.72	1,520.80	1,848.36	21.54	11.40	12.19	6.88
S.N.N.P	551.58	678.10	22.94	6,973.06	8,059.73	15.58	12.64	11.89	-5.98
Gambela	12.81	13.02	1.64	262.66	323.65	23.22	20.50	24.86	21.23
Harari	4.44	5.85	31.76	32.96	26.66	-19.11	7.42	4.56	-38.61
Addis Ababa	7.01	6.41	-8.56	90.93	82.62	-9.14	12.97	12.89	-0.63
DireDawa	4.55	6.15	35.16	33.72	63.27	87.63	7.41	10.29	38.82
All Regions	6,849.50	8,067.20	17.78	73,626.72	88,772.87	20.57	10.75	11.00	2.37

FIG 4. FORECAST OF 1998/99 AND ESTIMATES OF 1997/98 PRODUCTION OF MAJOR CROPS FOR PRIVATE HOLDINGS IN ETHIOPIA, REGION (MEHER SEASON)

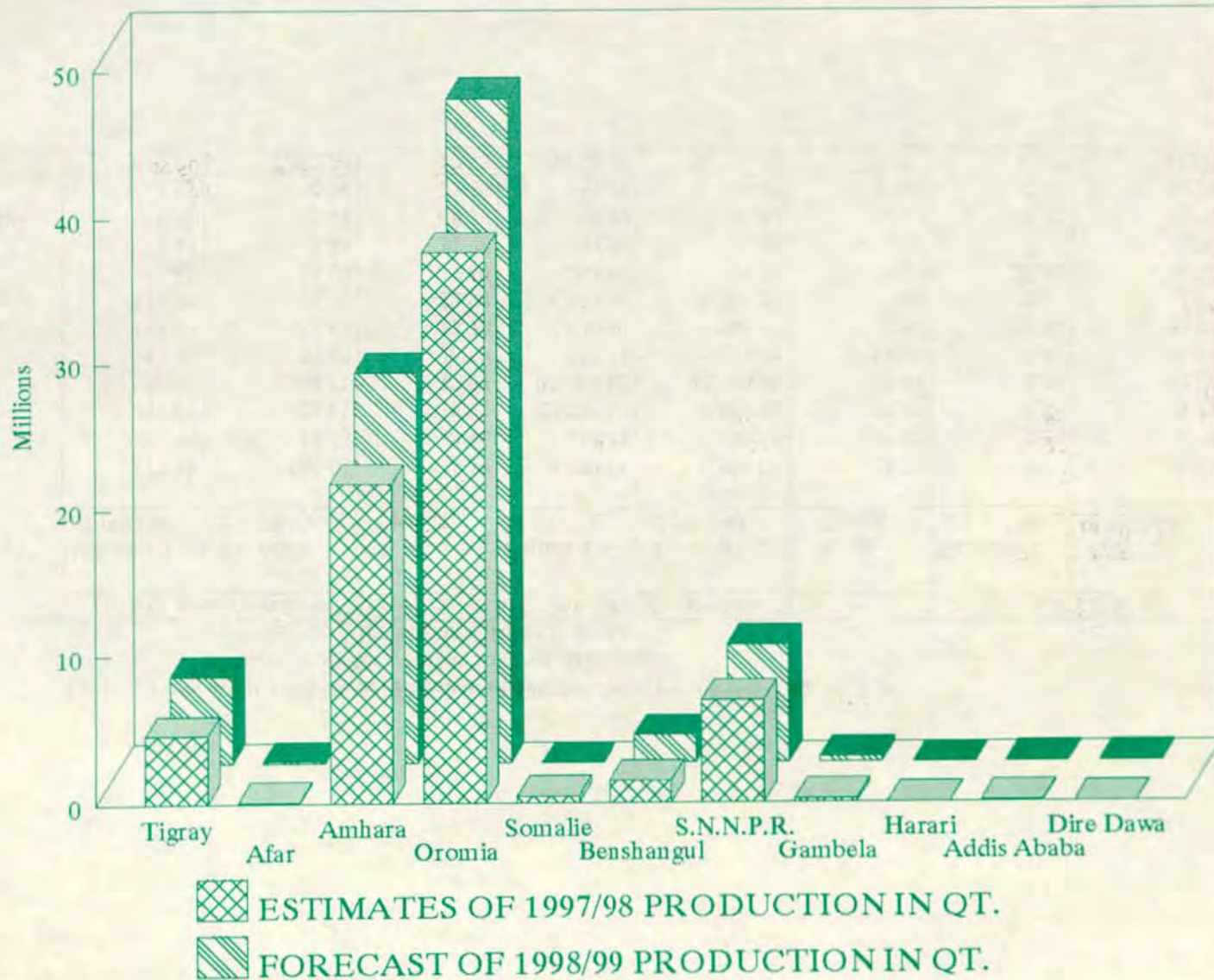


Table 3. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

National

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
<b>Cereals</b>	6,821.86	84.56	79,610.44	89.68	11.67
Teff	2,083.19	25.82	16,688.84	18.80	8.01
Barley	817.37	10.13	9,417.01	10.61	11.52
Wheat	1,040.41	12.90	14,042.53	15.82	13.50
Maize	1,375.53	17.05	23,073.77	25.99	16.77
Sorghum	1,053.76	13.06	12,382.05	13.95	11.75
Millet	406.19	5.04	3,539.72	3.99	8.71
Oats	45.41	.56	466.53	.53	10.27
<b>Pulses</b>	820.99	10.18	7,394.05	8.33	9.01
Horse Beans	307.02	3.81	3,089.22	3.48	10.06
Field Peas	144.09	1.79	1,175.36	1.32	8.16
Haricot Beans	131.37	1.63	943.18	1.06	7.18
Chick Peas	118.37	1.47	1,170.02	1.32	9.88
Lentils	52.26	.65	354.61	.40	6.79
Vetch	67.87	.84	661.67	.75	9.75
<b>Others</b>	424.35	5.26	1,768.38	1.99	4.17
Neug	238.31	2.95	815.38	.92	3.42
Linseed	96.24	1.19	440.23	.50	4.57
Rapeseed	10.10	.13	99.64	.11	9.87
Ground Nuts	15.21	.19	69.58	.08	4.57
Sunflower	4.21	.05	25.85	.03	6.14
Sesame	39.75	.49	219.56	.25	5.52
Fenugreek	20.53	.25	98.13	.11	4.78
<b>All Crops</b>	<b>8,067.20</b>	<b>100.00</b>	<b>88,772.87</b>	<b>100.00</b>	<b>11.00</b>

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

FIG 5. FORECAST OF 1998/99 AND ESTIMATES OF 1997/98 AREA AND PRODUCTION OF MAJOR CROPS FOR PRIVATE HOLDINGS IN ETHIOPIA, REGION (MEHER SEASON)

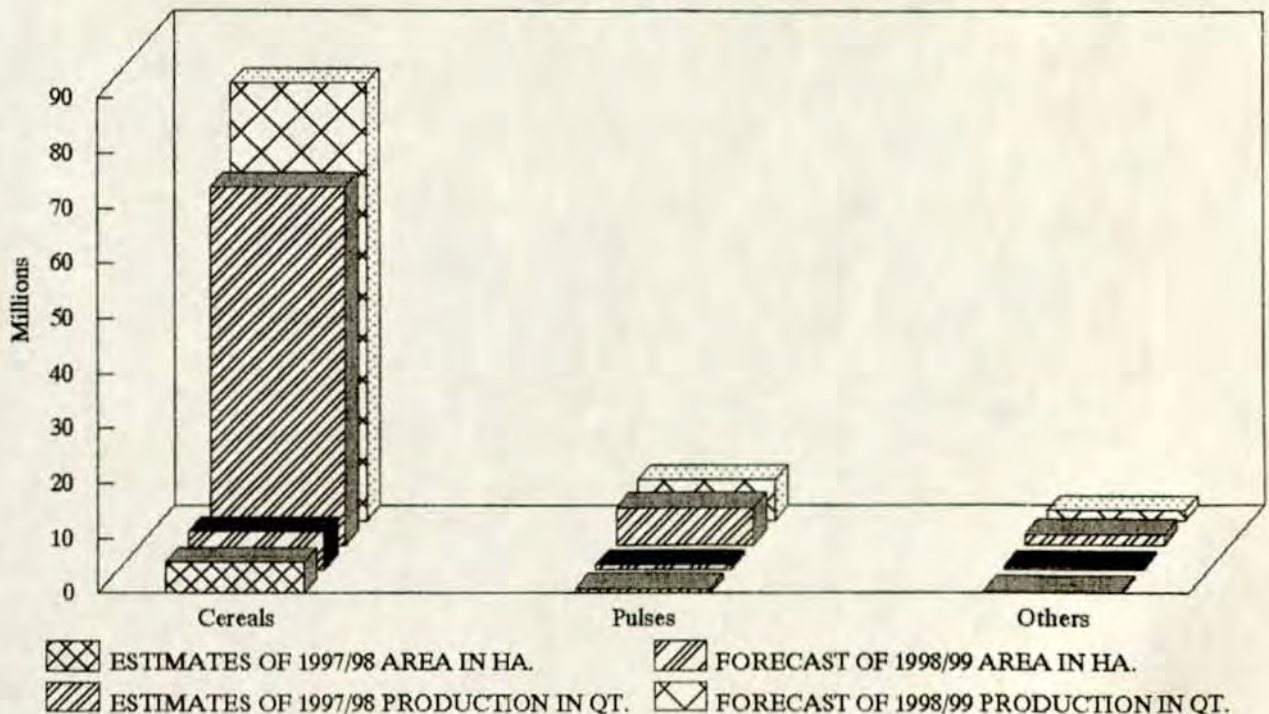


FIG 6. FORECAST OF 1998/99 AND ESTIMATES OF 1997/98 OF YIELD FOR CEREALS, PULSES, OTHERS AND ALL CROPS FOR PRIVATE HOLDINGS IN ETHIOPIA (MEHER SEASON)

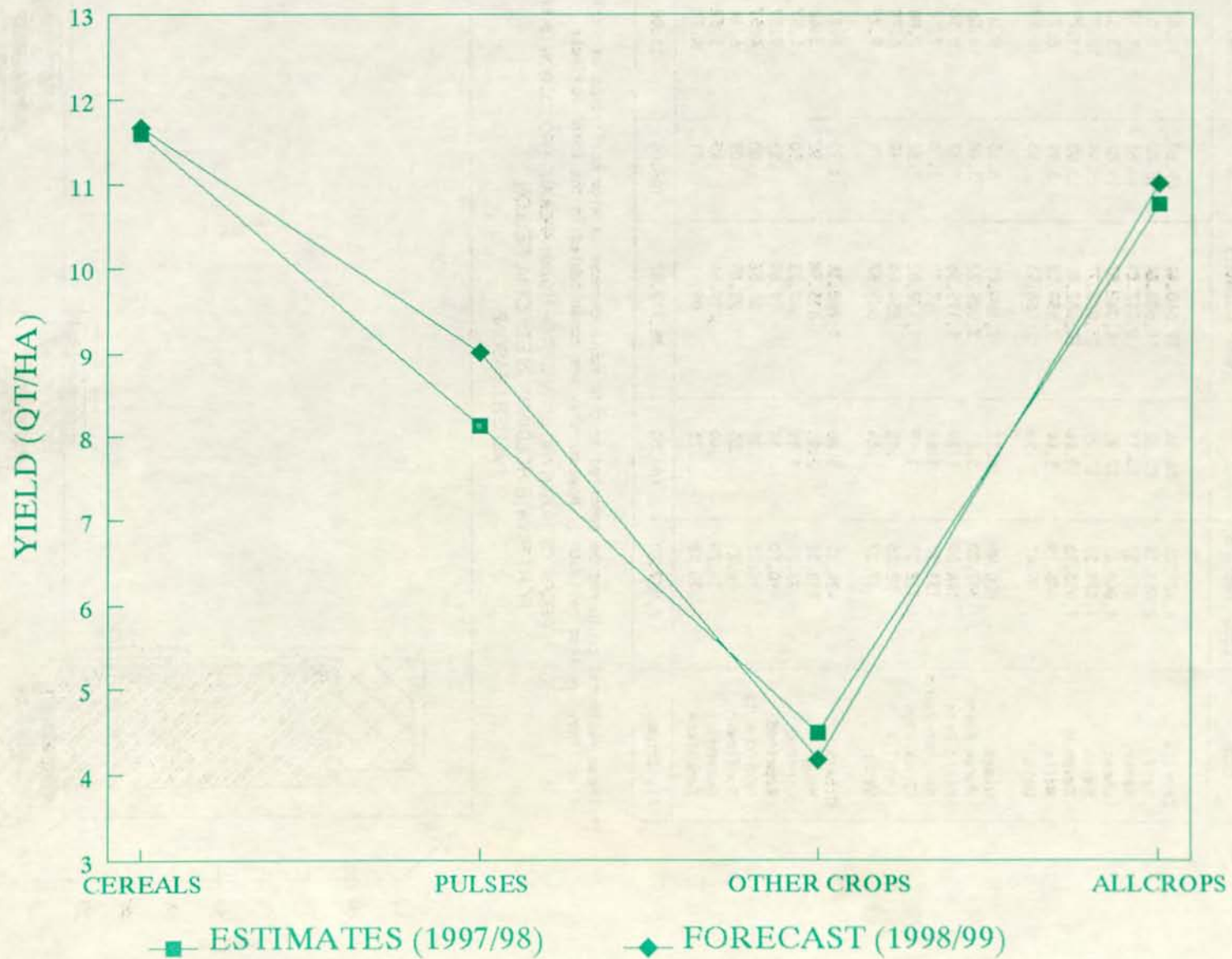


Table 4. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

Tigray

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	527.38	89.90	5,443.64	92.28	10.32
Teff	135.64	23.12	792.19	13.43	5.84
Barley	87.70	14.95	833.33	14.13	9.50
Wheat	57.38	9.78	572.18	9.70	9.97
Maize	73.47	12.52	1,263.17	21.41	17.19
Sorghum	104.99	17.90	1,369.89	23.22	13.05
Millet	67.99	11.59	611.76	10.37	9.00
Oats	**	**	**	.02	**
Pulses	31.60	5.39	301.94	5.12	9.56
Horse Beans	10.69	1.82	136.46	2.31	12.77
Field Peas	4.14	.71	50.73	.86	12.25
Haricot Beans	2.27	.39	9.14	.15	4.03
Chick Peas	5.17	.88	44.95	.76	8.69
Lentils	3.52	.60	23.07	.39	6.55
Vetch	5.80	.99	37.59	.64	6.48
Others	27.66	4.71	153.46	2.60	5.55
Neug	5.39	.92	11.48	.19	2.13
Linseed	7.81	1.33	55.61	.94	7.12
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	**	.01	**
Sesame	13.96	2.38	84.12	1.43	6.03
Fenugreek	.48	.08	1.94	.03	4.04
All Crops	586.64	100.00	5,899.04	100.00	10.06

Table 4.1 West Tigray Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	147.44	89.74	1,839.55	95.14	12.48
Teff	31.71	19.30	208.89	10.80	6.59
Barley	**	**	**	**	**
Wheat	**	**	**	**	**
Maize	26.34	16.03	575.59	29.77	21.85
Sorghum	46.18	28.11	663.53	34.32	14.37
Millet	41.02	24.97	366.04	18.93	8.92
Oats	-	-	-	-	-
Pulses	1.43	.87	17.06	.88	11.93
Horse Beans	1.01	.61	13.78	.71	13.64
Field Peas	**	**	**	**	**
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	**	**	**
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	15.43	9.39	77.01	3.98	4.99
Neug	3.45	2.10	**	**	**
Linseed	.32	.19	3.31	.17	10.34
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	**	**	**	**	**
Fenugreek	-	-	-	-	-
All Crops	164.29	100.00	1,933.61	100.00	11.77

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

FIG 7. FORECAST OF YIELD FOR CEREALS, PULSES, OTHERS AND ALL CROPS FOR PRIVATE HOLDINGS IN ETHIOPIA, BY REGION (MEHER SEASON) 1998/99(1991 E.C.)

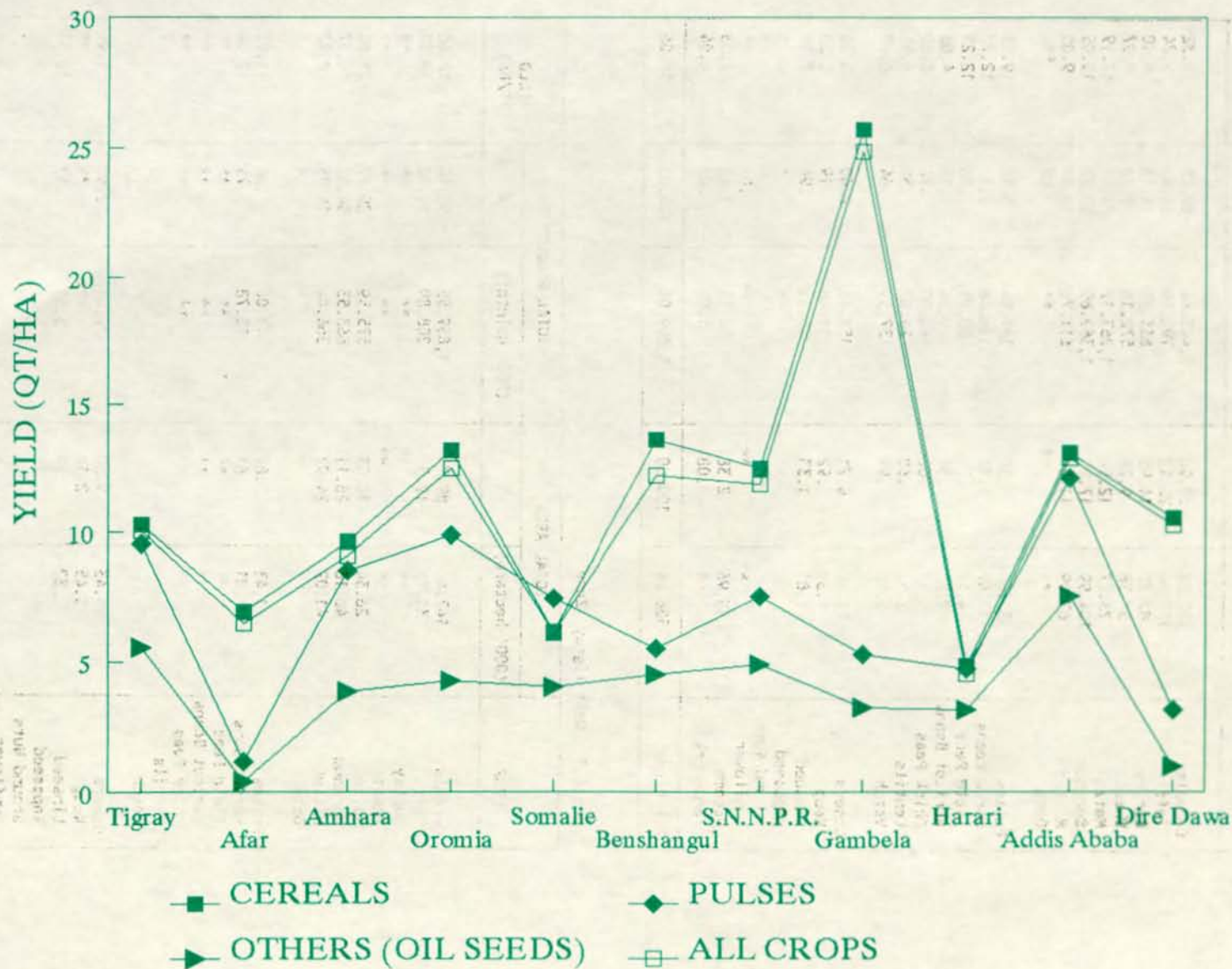


Table 4.2 Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

Central Tigray Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	162.86	92.59	1,672.35	93.70	10.27
Teff	54.12	30.77	343.19	19.23	6.34
Barley	16.52	9.39	222.99	12.49	13.50
Wheat	11.57	6.58	146.89	8.23	12.70
Maize	22.28	12.67	358.53	20.09	16.09
Sorghum	37.01	21.04	421.19	23.60	11.38
Millet	21.36	12.14	179.56	10.06	8.41
Oats	-	-	-	-	-
Pulses	8.03	4.57	73.93	4.14	9.21
Horse Beans	3.82	2.17	49.04	2.75	12.84
Field Peas	**	**	**	**	**
Haricot Beans	1.26	.72	5.35	.30	4.25
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	**	**	**	**	**
Others	5.00	2.84	38.58	2.16	7.72
Neug	1.80	1.02	10.48	.59	5.82
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	**	**	**	**	**
Fenugreek	**	**	**	**	**
All Crops	175.89	100.00	1,784.85	100.00	10.15

Table 4.3 East Tigray Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	74.13	83.29	691.02	84.16	9.32
Teff	9.94	11.17	61.73	7.52	6.21
Barley	31.55	35.45	287.26	34.99	9.10
Wheat	16.07	18.06	135.31	16.48	8.42
Maize	5.68	6.38	59.00	7.19	10.39
Sorghum	5.69	6.39	83.58	10.18	14.69
Millet	5.09	5.72	**	**	**
Oats	**	**	**	**	**
Pulses	11.84	13.30	107.94	13.15	9.12
Horse Beans	2.83	3.18	30.76	3.75	10.87
Field Peas	2.07	2.33	15.26	1.86	7.37
Haricot Beans	-	-	-	-	-
Chick Peas	3.55	3.99	**	**	**
Lentils	.73	.82	4.86	.59	6.66
Vetch	2.66	2.99	**	**	**
Others	3.04	3.42	**	**	**
Neug	-	-	-	-	-
Linseed	2.89	3.25	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	89.00	100.00	821.07	100.00	9.23

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

Table 4.4 Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

South Tigray Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	142.96	90.80	1,240.73	91.26	8.68
Teff	39.87	25.32	178.38	13.12	4.47
Barley	38.20	24.26	308.52	22.69	8.08
Wheat	28.99	18.41	279.05	20.53	9.63
Maize	19.16	12.17	270.05	19.86	14.09
Sorghum	16.11	10.23	201.59	14.83	12.51
Millet	**	**	2.66	.20	**
Oats	**	**	.48	.04	**
Pulses	10.30	6.54	103.01	7.58	10.00
Horse Beans	3.04	1.93	42.88	3.15	14.11
Field Peas	**	**	33.39	2.46	**
Haricot Beans	**	**	3.49	.26	**
Chick Peas	**	**	2.44	.18	**
Lentils	2.27	1.44	13.36	.98	5.89
Vetch	**	**	7.45	.55	**
Others	4.19	2.66	15.77	1.16	3.76
Neug	**	**	-	-	-
Linseed	2.02	1.28	4.24	.31	2.10
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	.32	.02	**
Sesame	**	**	10.11	.74	**
Fenugreek	**	**	1.10	.08	**
All Crops	157.45	100.00	1,359.51	100.00	8.63

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

Table 5. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

Afar

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	13.28	92.67	91.97	98.83	6.93
Teff	5.47	38.17	32.70	35.14	5.98
Barley	**	**	**	**	**
Wheat	**	**	**	**	**
Maize	2.17	15.14	26.13	28.08	12.04
Sorghum	5.07	35.38	26.96	28.97	5.32
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.89	6.21	1.03	1.11	1.16
Horse Beans	-	-	-	-	-
Field Peas	**	**	-	-	**
Haricot Beans	.66	4.61	**	**	**
Chick Peas	.21	1.47	**	**	**
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	**	.04	**
Sesame	**	**	**	.02	**
Fenugreek	-	-	-	-	-
All Crops	14.33	100.00	93.06	100.00	6.49

Table 5.1 Zone 1 Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	**	**	**	**	**
Teff	-	-	-	-	-
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	**	**	**	**	**
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	**	**	**	**	**

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

Table 5.2 Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

Zone 3 Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	12.32	92.56	82.54	98.78	6.70
Teff	5.18	38.92	31.54	37.75	6.09
Barley	**	**	**	**	**
Wheat	**	**	**	**	**
Maize	1.88	14.12	18.63	22.30	9.91
Sorghum	4.69	35.24	26.17	31.32	5.58
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.87	6.54	1.01	1.21	1.16
Horse Beans	-	-	-	-	-
Field Peas	**	**	-	-	-
Haricot Beans	.64	4.81	**	**	**
Chick Peas	.21	1.58	**	**	**
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	**	**	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	-	-	**
Sesame	**	**	-	-	**
Fenugreek	-	-	-	-	-
All Crops	13.31	100.00	83.56	100.00	6.28

Table 5.3 Zone 5 Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	.80	94.12	3.84	98.21	4.80
Teff	**	**	**	**	**
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	.13	15.29	1.90	48.59	14.62
Sorghum	.37	43.53	.78	19.95	2.11
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.03	3.53	.01	.26	.33
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	.03	3.53	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	**	**	**
Sesame	**	**	**	**	**
Fenugreek	-	-	-	-	-
All Crops	.85	100.00	3.91	100.00	4.60

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

Table 6. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

Amhara

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	2,338.65	80.01	22,606.61	84.80	9.67
Teff	843.57	28.86	6,536.41	24.52	7.75
Barley	270.72	9.26	2,303.34	8.64	8.51
Wheat	257.48	8.81	2,577.76	9.67	10.01
Maize	309.17	10.58	4,744.63	17.80	15.35
Sorghum	412.27	14.10	4,345.47	16.30	10.54
Millet	233.47	7.99	1,992.94	7.48	8.54
Oats	11.97	.41	106.05	.40	8.86
Pulses	382.65	13.09	3,275.62	12.29	8.56
Horse Beans	134.95	4.62	1,176.33	4.41	8.72
Field Peas	60.09	2.06	390.43	1.46	6.50
Haricot Beans	40.76	1.39	332.20	1.25	8.15
Chick Peas	74.14	2.54	730.11	2.74	9.85
Lentils	33.22	1.14	255.31	.96	7.69
Vetch	39.49	1.35	391.24	1.47	9.91
Others	201.81	6.90	776.79	2.91	3.85
Neug	136.74	4.68	459.46	1.72	3.36
Linseed	27.80	.95	86.59	.32	3.11
Rapeseed	4.37	.15	66.75	.25	15.27
Ground Nuts	**	**	-	-	**
Sunflower	3.60	.12	20.07	.08	5.58
Sesame	17.80	.61	**	**	**
Fenugreek	11.05	.38	50.06	.19	4.53
All Crops	2,923.11	100.00	26,659.02	100.00	9.12

Table 6.1. North Gonder Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	430.24	83.19	3,957.50	89.05	9.20
Teff	112.48	21.75	758.40	17.06	6.74
Barley	54.07	10.45	500.42	11.26	9.26
Wheat	22.70	4.39	254.78	5.73	11.22
Maize	32.22	6.23	396.80	8.93	12.32
Sorghum	144.98	28.03	1,404.52	31.60	9.69
Millet	63.58	12.29	640.89	14.42	10.08
Oats	**	**	**	**	**
Pulses	42.68	8.25	301.21	6.78	7.06
Horse Beans	18.38	3.55	173.86	3.91	9.46
Field Peas	6.55	1.27	25.79	.58	3.94
Haricot Beans	**	**	**	**	**
Chick Peas	12.22	2.36	89.25	2.01	7.30
Lentils	-	-	-	-	-
Vetch	**	**	**	**	**
Others	44.25	8.56	185.57	4.18	4.19
Neug	31.06	6.01	111.45	2.51	3.59
Linseed	3.06	.59	11.00	.25	3.59
Rapeseed	**	**	**	**	**
Ground Nuts	-	-	-	-	-
Sunflower	**	**	**	**	**
Sesame	**	**	**	**	**
Fenugreek	**	**	**	**	**
All Crops	517.17	100.00	4,444.28	100.00	8.59

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

Table 6.2. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

South Gonder Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	313.33	79.90	2,094.80	84.30	6.69
Teff	116.38	29.68	688.26	27.70	5.91
Barley	49.82	12.70	320.57	12.90	6.43
Wheat	34.94	8.91	215.01	8.65	6.15
Maize	40.65	10.37	336.09	13.53	8.27
Sorghum	25.80	6.58	186.74	7.52	7.24
Millet	45.60	11.63	346.13	13.93	7.59
Oats	**	**	**	**	**
Pulses	46.04	11.74	250.62	10.09	5.44
Horse Beans	23.06	5.88	116.96	4.71	5.07
Field Peas	4.04	1.03	20.84	.84	5.16
Haricot Beans	**	**	**	**	**
Chick Peas	12.10	3.09	97.62	3.93	8.07
Lentils	1.34	.34	6.58	.26	4.91
Vetch	**	**	**	**	**
Others	32.78	8.36	139.46	5.61	4.25
Neug	24.04	6.13	**	**	**
Linseed	5.97	1.52	11.02	.44	1.85
Rapeseed	**	**	**	**	**
Ground Nuts	-	-	-	-	-
Sunflower	**	**	**	**	**
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	392.15	100.00	2,484.87	100.00	6.34

Table 6.3. North Wolo Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	164.27	80.24	1,180.01	80.06	7.18
Teff	52.50	25.64	311.98	21.17	5.94
Barley	30.45	14.87	257.69	17.48	8.46
Wheat	34.91	17.05	309.56	21.00	8.87
Maize	**	**	**	**	**
Sorghum	25.00	12.21	170.22	11.55	6.81
Millet	**	**	**	**	**
Oats	2.34	1.14	19.12	1.30	8.17
Pulses	33.77	16.50	269.70	18.30	7.99
Horse Beans	10.90	5.32	100.51	6.82	9.22
Field Peas	3.95	1.93	27.51	1.87	6.96
Haricot Beans	**	**	**	**	**
Chick Peas	5.18	2.53	**	**	**
Lentils	**	**	56.93	3.86	6.54
Vetch	4.44	2.17	**	**	**
Others	6.68	3.26	24.17	1.64	3.62
Neug	**	**	**	**	**
Linseed	4.24	2.07	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	**	**	**
Sesame	**	**	**	**	**
Fenugreek	1.53	.75	8.11	.55	5.30
All Crops	204.72	100.00	1,473.88	100.00	7.20

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

Table 6.4. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99. (1991 E.C.)

South Wolo Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	% (000)	(000' quintal)	%	
Cereals	233.46	75.63	2,259.30	74.33	9.68
Teff	83.07	26.91	712.79	23.45	8.58
Barley	23.89	7.74	251.24	8.27	10.52
Wheat	52.38	16.97	572.08	18.82	10.92
Maize	14.01	4.54	96.56	3.18	6.89
Sorghum	46.36	15.02	524.35	17.25	11.31
Millet	**	**	**	**	**
Oats	8.05	2.61	74.15	2.44	9.21
Pulses	63.74	20.65	732.46	24.10	11.49
Horse Beans	29.75	9.64	371.19	12.21	12.48
Field Peas	9.73	3.15	62.54	2.06	6.43
Haricot Beans	5.23	1.69	52.07	1.71	9.96
Chick Peas	**	**	**	**	**
Lentils	5.69	1.84	**	**	**
Vetch	7.95	2.58	**	**	**
Others	11.50	3.73	47.92	1.58	4.17
Neug	**	**	**	**	**
Linseed	1.75	.57	7.24	.24	4.14
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	**	**	**	**	**
Fenugreek	4.44	1.44	18.73	.62	4.22
All Crops	308.70	100.00	3,039.68	100.00	9.85

Table 6.5. North Shewa Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	254.59	81.28	2,538.11	85.20	9.97
Teff	108.70	34.70	914.83	30.71	8.42
Barley	21.78	6.95	171.07	5.74	7.85
Wheat	40.47	12.92	507.30	17.03	12.54
Maize	11.36	3.63	137.19	4.61	12.08
Sorghum	72.25	23.07	807.53	27.11	11.18
Millet	-	-	-	-	-
Oats	**	**	**	**	**
Pulses	51.36	16.40	427.25	14.34	8.32
Horse Beans	13.43	4.29	105.97	3.56	7.89
Field Peas	4.84	1.55	51.77	1.74	10.70
Haricot Beans	4.44	1.42	43.32	1.45	9.76
Chick Peas	12.11	3.87	106.11	3.56	8.76
Lentils	13.96	4.46	109.58	3.68	7.85
Vetch	**	**	**	**	**
Others	7.29	2.33	13.74	.46	1.88
Neug	1.14	.36	**	**	**
Linseed	3.12	1.00	5.00	.17	1.60
Rapeseed	**	.02	**	**	**
Ground Nuts	-	-	-	-	-
Sunflower	**	**	**	**	**
Sesame	**	**	**	**	**
Fenugreek	.53	.17	3.55	.12	6.70
All Crops	313.23	100.00	2,979.10	100.00	9.51

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

Table 6.6. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings (1998/99 (1991 E.C.))

East Gojam Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	348.71	78.05	4,161.39	81.88	11.93
Teff	173.52	38.84	1,833.87	36.09	10.57
Barley	47.98	10.74	513.83	10.11	10.71
Wheat	53.96	12.08	556.64	10.95	10.32
Maize	49.14	11.00	820.75	16.15	16.70
Sorghum	24.02	5.38	**	**	**
Millet	**	**	**	**	**
Oats	-	-	-	-	-
Pulses	75.29	16.85	860.84	16.94	11.43
Horse Beans	17.81	3.99	155.42	3.06	8.73
Field Peas	10.65	2.38	87.75	1.73	8.24
Haricot Beans	**	**	**	**	**
Chick Peas	17.97	4.02	252.27	4.96	14.04
Lentils	**	**	**	**	**
Vetch	16.02	3.59	184.92	3.64	11.54
Others	22.79	5.10	59.80	1.18	2.62
Neug	**	**	22.06	.43	1.38
Linseed	4.53	1.01	27.27	.54	6.02
Rapeseed	.74	.17	3.54	.07	4.78
Ground Nuts	-	-	-	-	-
Sunflower	**	**	**	**	**
Sesame	**	**	**	-	3.43
Fenugreek	1.12	.25	4.71	**	**
All Crops	446.78	100.00	5,082.02	100.00	11.37

Table 6.7. West Gojam Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	335.66	78.58	3,792.53	88.40	11.30
Teff	121.17	28.37	815.42	19.01	6.73
Barley	22.41	5.25	118.20	2.76	5.27
Wheat	9.55	2.24	96.29	2.24	10.08
Maize	95.82	22.43	2,012.47	46.91	21.00
Sorghum	16.15	3.78	**	**	**
Millet	69.57	16.29	596.24	13.90	8.57
Oats	**	**	**	**	**
Pulses	52.00	12.17	317.57	7.40	6.11
Horse Beans	14.80	3.46	101.52	2.37	6.86
Field Peas	15.67	3.67	91.56	2.13	5.84
Haricot Beans	**	**	**	**	**
Chick Peas	7.74	1.81	72.66	1.69	9.39
Lentils	**	**	**	**	**
Vetch	**	**	31.84	.74	5.01
Others	39.52	9.25	180.17	4.20	4.56
Neug	33.37	7.81	114.59	2.67	3.43
Linseed	2.72	.64	4.78	.11	1.76
Rapeseed	2.66	.62	57.36	1.34	21.56
Ground Nuts	-	-	-	-	-
Sunflower	**	**	**	**	**
Sesame	**	**	**	**	**
Fenugreek	**	**	**	**	**
All Crops	427.18	100.00	4,290.27	100.00	10.04

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

Table 6.8. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

Waghamera Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	67.46	81.54	570.28	85.88	8.45
Teff	17.25	20.85	92.65	13.95	5.37
Barley	12.34	14.92	100.94	15.20	8.18
Wheat	6.42	7.76	51.28	7.72	7.99
Maize	1.47	1.78	17.26	2.60	11.74
Sorghum	29.49	35.65	304.28	45.82	10.32
Millet	**	**	**	**	**
Oats	-	-	-	-	-
Pulses	10.08	12.18	65.44	9.86	6.49
Horse Beans	3.81	4.61	34.13	5.14	8.96
Field Peas	1.55	1.87	5.25	.79	3.39
Haricot Beans	2.74	3.31	20.82	3.14	7.60
Chick Peas	.66	.80	**	**	**
Lentils	1.32	1.60	2.76	.42	2.09
Vetch	-	-	-	-	-
Others	5.18	6.26	28.30	4.26	5.46
Neug	.55	.66	**	**	**
Linseed	1.36	1.64	3.93	.59	2.89
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	.79	.95	7.23	1.09	9.15
Sesame	**	**	14.48	2.18	5.84
Fenugreek	-	-	**	**	**
All Crops	82.73	100.00	664.02	100.00	8.03

Table 6.9. Agewawia Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	146.36	80.21	1,538.12	92.63	10.51
Teff	48.10	26.36	340.07	20.48	7.07
Barley	7.77	4.26	67.59	4.07	8.70
Wheat	1.84	1.01	12.30	.74	6.68
Maize	34.97	19.16	678.34	40.85	19.40
Sorghum	**	**	**	**	**
Millet	47.10	25.81	367.86	22.15	7.81
Oats	**	**	-	-	**
Pulses	5.53	3.03	31.09	1.87	5.62
Horse Beans	2.76	1.51	15.15	.91	5.49
Field Peas	2.77	1.52	15.95	.96	5.76
Haricot Beans	-	-	-	-	-
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	30.59	16.76	91.29	5.50	2.98
Neug	27.57	15.11	84.81	5.11	3.08
Linseed	.93	.51	**	**	**
Rapeseed	.42	.23	**	**	**
Ground Nuts	**	**	-	-	-
Sunflower	-	-	-	-	-
Sesame	**	**7	**	**	**
Fenugreek	-	-	-	-	-
All Crops	182.48	100.00	1,660.50	100.00	9.10

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

Table 6.10. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

Gromia Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	44.57	92.95	514.58	95.22	11.55
Teff	10.41	21.71	68.14	12.61	6.55
Barley	.21	.44	1.78	.33	8.48
Wheat	**	**	**	**	**
Maize	11.39	23.75	142.79	26.42	12.54
Sorghum	21.67	45.19	292.89	54.20	13.52
Millet	.38	.79	4.44	.82	11.68
Oats	**	**	**	**	**
Pulses	2.16	4.50	19.44	3.60	9.00
Horse Beans	**	**	**	**	**
Field Peas	.33	.69	1.48	.27	4.48
Haricot Beans	.54	1.13	6.28	1.16	11.63
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	-	-	-	-	-
Others	1.22	2.54	6.37	1.18	5.22
Neug	**	**	-	-	-
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	**	**	**
Sesame	.90	1.88	4.76	.88	5.29
Fenugreek	**	**	-	-	-
All Crops	47.95	100.00	540.40	100.00	11.27

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

Table 7. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

Oromia

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	3,151.76	86.49	41,568.44	91.39	13.19
Teff	890.80	24.44	7,798.84	17.15	8.75
Barley	395.44	10.85	5,575.13	12.26	14.10
Wheat	633.89	17.39	9,502.53	20.89	14.99
Maize	754.89	20.72	13,166.03	28.95	17.44
Sorghum	368.26	10.11	4,568.52	10.04	12.41
Millet	75.63	2.08	600.11	1.32	7.93
Oats	32.85	.90	357.28	.79	10.88
Pulses	320.86	8.80	3,182.12	7.00	9.92
Horse Beans	136.62	3.75	1,533.08	3.37	11.22
Field Peas	60.70	1.67	564.86	1.24	9.31
Haricot Beans	52.70	1.45	415.95	.91	7.89
Chick Peas	34.48	.95	369.29	.81	10.71
Lentils	14.66	.40	74.55	.16	5.09
Vetch	21.69	.60	224.40	.49	10.35
Others	171.49	4.71	733.90	1.61	4.28
Neug	84.54	2.32	307.36	.68	3.64
Linseed	59.35	1.63	292.09	.64	4.92
Rapeseed	5.64	.15	32.70	.07	5.80
Ground Nuts	12.09	.33	**	**	**
Sunflower	**	**	-	-	-
Sesame	**	**	**	**	**
Fenugreek	7.61	.21	38.03	.08	5.00
All Crops	3,644.11	100.00	45,484.46	100.00	12.48

Table 7.1. West Welega Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	289.70	91.60	3,192.09	96.07	11.02
Teff	59.34	18.76	332.67	10.01	5.61
Barley	1.23	.39	6.74	.20	5.48
Wheat	8.66	2.74	111.34	3.35	12.86
Maize	106.43	33.65	1,479.67	44.53	13.90
Sorghum	71.82	22.71	1,001.89	30.15	13.95
Millet	42.20	13.34	259.47	7.81	6.15
Oats	**	**	**	**	**
Pulses	16.53	5.23	106.33	3.20	6.43
Horse Beans	6.54	2.07	48.24	1.45	7.38
Field Peas	1.33	.42	3.58	.11	2.69
Haricot Beans	8.43	2.67	53.99	1.62	6.40
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	**	**	.52	.02	**
Others	10.04	3.17	24.10	.73	2.40
Neug	9.50	3.00	22.74	.68	2.39
Linseed	**	**	**	.04	**
Rapeseed	**	**	**	-	**
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	**	**	-	-	**
Fenugreek	-	-	-	-	-
All Crops	316.28	100.00	3,322.52	100.00	10.50

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

Table 7.2. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

East Welega Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	318.73	78.34	4,036.13	88.89	12.66
Teff	137.10	33.70	1,071.27	23.59	7.81
Barley	10.43	2.56	117.04	2.58	11.22
Wheat	19.41	4.77	366.87	8.08	18.90
Maize	100.90	24.80	1,970.64	43.40	19.53
Sorghum	26.03	6.40	**	**	**
Millet	24.79	6.09	235.32	5.18	9.49
Oats	**	**	**	**	**
Pulses	27.10	6.66	264.32	5.82	9.75
Horse Beans	14.71	3.62	153.35	3.38	10.42
Field Peas	11.31	2.78	**	**	**
Haricot Beans	**	**	1.34	.03	1.91
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	-	-	-	-	-
Others	61.03	15.00	239.98	5.29	3.93
Neug	53.18	13.07	209.55	4.62	3.94
Linseed	5.25	1.29	18.20	.40	3.47
Rapeseed	1.08	.27	**	**	**
Ground Nuts	**	**	-	-	-
Sunflower	-	-	-	-	-
Sesame	**	**	**	**	**
Fenugreek	.13	.03	.19	-	1.46
All Crops	406.87	100.00	4,540.43	100.00	11.16

Table 7.3. Illibabor Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	127.40	93.55	1,586.52	97.17	12.45
Teff	37.10	27.24	226.34	13.86	6.10
Barley	.47	.35	**	**	**
Wheat	**	**	**	**	**
Maize	63.42	46.57	1,066.89	65.35	16.82
Sorghum	21.38	15.70	246.97	15.13	11.55
Millet	4.57	3.36	41.77	2.56	9.14
Oats	-	-	-	-	-
Pulses	8.20	6.02	44.80	2.74	5.46
Horse Beans	**	**	6.99	.43	3.41
Field Peas	3.22	2.36	**	**	**
Haricot Beans	**	**	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	.59	.43	**	**	**
Neug	.48	.35	**	**	**
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	136.19	100.00	1,632.66	100.00	11.99

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

Table 7.4. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

Jimma Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	269.39	90.96	3,261.55	95.80	12.11
Teff	123.78	41.79	872.80	25.64	7.05
Barley	7.20	2.43	**	**	**
Wheat	12.54	4.23	122.70	3.60	9.78
Maize	92.02	31.07	1,722.08	50.58	18.71
Sorghum	30.18	10.19	400.43	11.76	13.27
Millet	**	**	**	**	**
Oats	**	**	**	**	**
Pulses	21.00	7.09	126.53	3.72	6.03
Horse Beans	14.07	4.75	81.54	2.40	5.80
Field Peas	**	1.57	28.67	.84	6.17
Haricot Beans	**	.62	**	**	**
Chick Peas	-	-	-	-	-
Lentils	**	.15	**	**	**
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	**	**	**	**	**
Linseed	.63	.21	1.63	.05	2.59
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	296.16	100.00	3,404.40	100.00	11.50

Table 7.5. West Shewa Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	479.73	87.28	5,728.33	90.71	11.94
Teff	229.69	41.79	2,193.43	34.73	9.55
Barley	64.44	11.72	752.60	11.92	11.68
Wheat	117.15	21.31	1,528.91	24.21	13.05
Maize	46.53	8.47	831.11	13.16	17.86
Sorghum	21.26	3.87	414.95	6.57	19.52
Millet	-	-	-	-	-
Oats	**	**	**	**	**
Pulses	55.44	10.09	534.43	8.46	9.64
Horse Beans	22.29	4.06	255.30	4.04	11.45
Field Peas	6.61	1.20	**	**	**
Haricot Beans	**	**	**	**	**
Chick Peas	15.08	2.74	**	**	**
Lentils	1.05	.19	3.89	.06	3.70
Vetch	**	**	**	**	**
Others	14.45	2.63	52.34	.83	3.62
Neug	**	**	**	**	**
Linseed	6.02	1.10	24.99	.40	4.15
Rapeseed	1.05	.19	**	**	**
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	-	-	-
All Crops	549.63	100.00	6,315.10	100.00	11.49

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

Table 7.6. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

North Shewa Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	283.42	81.63	3,070.54	86.47	10.83
Teff	94.75	27.29	768.36	21.64	8.11
Barley	75.74	21.81	970.14	27.32	12.81
Wheat	64.89	18.69	906.66	25.53	13.97
Maize	5.29	1.52	42.80	1.21	8.09
Sorghum	42.11	12.13	378.30	10.65	8.98
Millet	-	-	-	-	-
Oats	.65	.19	**	**	**
Pulses	51.14	14.73	431.24	12.14	8.43
Horse Beans	19.93	5.74	195.77	5.51	9.82
Field Peas	6.93	2.00	50.09	1.41	7.23
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	**	**	**
Lentils	7.98	2.30	32.40	.91	4.06
Vetch	5.58	1.61	48.98	1.38	8.78
Others	12.64	3.64	49.08	1.38	3.88
Neug	5.19	1.49	16.99	.48	3.27
Linseed	7.13	2.05	31.90	.90	4.47
Rapeseed	**	**	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	347.20	100.00	3,550.86	100.00	10.23

Table 7.7. East Shewa Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	257.36	86.85	3,951.21	90.69	15.35
Teff	85.72	28.93	1,144.01	26.26	13.35
Barley	8.40	2.83	131.56	3.02	15.66
Wheat	51.45	17.36	887.74	20.38	17.25
Maize	107.69	36.34	1,732.59	39.77	16.09
Sorghum	3.69	1.25	53.03	1.22	14.37
Millet	.41	.14	2.26	.05	5.51
Oats	-	-	-	-	-
Pulses	38.38	12.95	400.78	9.20	10.44
Horse Beans	4.90	1.65	46.51	1.07	9.49
Field Peas	4.05	1.37	62.10	1.43	15.33
Haricot Beans	17.34	5.85	107.49	2.47	6.20
Chick Peas	7.42	2.50	131.66	3.02	17.74
Lentils	1.76	.59	13.88	.32	7.89
Vetch	**	**	39.13	.90	13.45
Others	**	**	**	**	**
Neug	-	-	-	-	-
Linseed	**	**	-	-	-
Rapeseed	**	**	**	**	**
Ground Nuts	-	-	-	-	-
Sunflower	**	**	-	-	-
Sesame	**	**	**	**	**
Fenugreek	**	**	**	**	**
All Crops	296.34	100.00	4,356.62	100.00	14.70

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

Table 7.8. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

Arsi Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	606.10	86.63	9,274.10	90.50	15.30
Teff	82.18	11.75	798.51	7.79	9.72
Barley	164.48	23.51	2,522.91	24.62	15.34
Wheat	265.18	37.90	4,115.45	40.16	15.52
Maize	72.55	10.37	1,534.75	14.98	21.15
Sorghum	14.44	2.06	234.15	2.29	16.22
Millet	-	-	-	-	-
Oats	7.27	1.04	68.33	.67	9.40
Pulses	62.24	8.90	817.69	7.98	13.14
Horse Beans	37.01	5.29	504.78	4.93	13.64
Field Peas	12.80	1.83	**	**	**
Haricot Beans	**	**	**	**	**
Chick Peas	-	-	-	-	-
Lentils	**	**	**	**	**
Vetch	**	**	**	**	**
Others	31.33	4.48	155.40	1.52	4.96
Neug	**	**	**	**	**
Linseed	23.82	3.40	113.94	1.11	4.78
Rapeseed	**	**	**	**	**
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	699.67	100.00	10,247.19	100.00	14.65

Table 7.9. West Harerge Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	131.66	89.58	2,063.96	91.05	15.68
Teff	10.02	6.82	90.43	3.99	9.02
Barley	5.47	3.72	69.70	3.07	12.74
Wheat	**	**	8.65	.38	**
Maize	63.23	43.02	1,248.35	55.07	19.74
Sorghum	50.65	34.46	635.18	28.02	12.54
Millet	**	**	8.58	.38	**
Oats	.68	.46	3.07	.14	4.51
Pulses	12.34	8.40	182.32	8.04	14.77
Horse Beans	**	**	**	**	**
Field Peas	.64	.44	**	**	**
Haricot Beans	5.14	3.50	48.21	2.13	9.38
Chick Peas	**	**	5.83	.26	20.82
Lentils	.52	.35	3.03	.13	5.83
Vetch	-	-	-	-	-
Others	2.98	2.03	20.50	.90	6.88
Neug	-	-	-	-	-
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	**	**	**	**	**
Sunflower	-	-	-	-	-
Sesame	**	**	**	**	**
Fenugreek	1.26	.86	14.24	.63	11.30
All Crops	146.98	100.00	2,266.78	100.00	15.42

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

Table 7.10. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

East Harerge Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	152.61	86.95	1,787.54	90.79	11.71
Teff	5.53	3.15	23.24	1.18	4.20
Barley	4.75	2.71	**	**	**
Wheat	5.74	3.27	67.29	3.42	11.72
Maize	51.37	29.27	749.66	38.07	14.59
Sorghum	84.60	48.20	887.30	45.06	10.49
Millet	-	-	-	-	-
Oats	**	**	**	**	**
Pulses	10.26	5.85	124.86	6.34	12.17
Horse Beans	**	**	**	**	**
Field Peas	**	**	**	**	**
Haricot Beans	3.12	1.78	25.30	1.28	8.11
Chick Peas	**	**	**	**	**
Lentils	.37	.21	1.88	.10	5.08
Vetch	-	-	-	-	-
Others	12.64	7.20	**	**	**
Neug	-	-	-	-	-
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	**	**	**	**	**
Sunflower	-	-	-	-	-
Sesame	**	**	**	**	**
Fenugreek	.59	.34	1.25	.06	2.12
All Crops	175.51	100.00	1,968.97	100.00	11.22

Table 7.11. Bale Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	190.28	84.34	2,844.94	92.45	14.95
Teff	22.64	10.03	**	**	**
Barley	45.73	20.27	739.69	24.04	16.18
Wheat	85.94	38.09	1,359.16	44.17	15.82
Maize	12.07	5.35	205.00	6.66	16.98
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	21.88	9.70	253.91	8.25	11.60
Pulses	15.93	7.06	118.59	3.85	7.44
Horse Beans	3.68	1.63	31.13	1.01	8.46
Field Peas	6.56	2.91	46.38	1.51	7.07
Haricot Beans	.97	.43	**	**	**
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	**	**	**	**	**
Others	19.41	8.60	113.65	3.69	5.86
Neug	**	**	**	**	**
Linseed	15.03	6.66	95.28	3.10	6.34
Rapeseed	**	**	**	**	**
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	4.08	1.81	15.36	.50	3.76
All Crops	225.62	100.00	3,077.17	100.00	13.64

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

Table 7.12. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

Borena Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	45.38	95.20	771.52	96.23	17.00
Teff	**	**	**	**	**
Barley	**	**	**	**	**
Wheat	**	**	**	**	**
Maize	33.41	70.09	582.48	72.65	17.43
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	2.29	4.80	**	**	**
Horse Beans	**	**	**	**	**
Field Peas	**	**	**	**	**
Haricot Beans	.59	1.24	**	**	5.81
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	47.67	100.00	801.76	100.00	16.82

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

Table 8. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

Somale

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	36.89	97.59	227.66	97.71	6.17
Teff	**	**	**	**	**
Barley	3.08	8.15	16.02	6.88	5.20
Wheat	1.83	4.84	**	**	**
Maize	18.39	48.65	115.80	49.70	6.30
Sorghum	13.47	35.63	83.45	35.82	6.20
Millet	-	-	-	-	-
Oats	**	**	**	**	**
Pulses	.49	1.30	**	**	**
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	**	**	**
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	-	-	-	-	-
Linseed	**	**	**	**	**
Rapeseed	**	**	**	**	**
Ground Nuts	**	**	**	**	**
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	37.80	100.00	233.00	100.00	6.16

Table 8.1. Shinele Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	.42	97.67	5.43	99.82	12.93
Teff	-	-	-	-	-
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	.19	44.19	2.66	48.90	14.00
Sorghum	.23	53.49	**	**	**
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	-	-	**	**	**
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	-	-	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	.43	100.00	5.44	100.00	12.65

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

Table 8.2. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

Jijiga Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	36.26	97.81	220.68	98.66	6.09
Teff	**	**	**	**	**
Barley	3.08	8.31	16.02	7.16	5.20
Wheat	1.83	4.94	**	**	**
Maize	17.99	48.53	111.61	49.90	6.20
Sorghum	13.24	35.72	80.67	36.07	6.09
Millet	-	-	-	-	-
Oats	**	**	**	**	**
Pulses	.39	1.05	1.30	.58	3.33
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	**	**	**
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	-	-	-	-	-
Linseed	**	.19	**	**	**
Rapeseed	.01	.03	**	**	**
Ground Nuts	**	**	**	**	**
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	37.07	100.00	223.67	100.00	6.03

Table 8.3. Moyale Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	**	**	**	**	**
Teff	-	-	-	-	-
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	**	**	**	**	**
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	**	**	**	**	**

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

Table 9. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

Benshangul-Gumuz

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	127.70	84.18	1,733.62	93.79	13.58
Teff	18.93	12.48	122.39	6.62	6.47
Barley	**	**	**	**	**
Wheat	**	**	**	**	**
Maize	28.95	19.08	506.50	27.40	17.50
Sorghum	49.38	32.55	753.73	40.78	15.26
Millet	25.96	17.11	313.03	16.94	12.06
Oats	**	**	-	-	**
Pulses	6.53	4.30	36.12	1.95	5.53
Horse Beans	1.41	.93	**	**	**
Field Peas	**	**	**	**	**
Haricot Beans	3.72	2.45	19.00	1.03	5.11
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	-	-	-	-	-
Others	17.46	11.51	78.62	4.25	4.50
Neug	11.01	7.26	36.78	1.99	3.34
Linseed	.20	.13	**	**	**
Rapeseed	**	**	-	-	**
Ground Nuts	1.31	.86	**	**	**
Sunflower	**	**	**	**	**
Sesame	4.91	3.24	31.08	1.68	6.33
Fenugreek	-	-	-	-	-
All Crops	151.69	100.00	1,848.36	100.00	12.19

Table 9.1. Metekel Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	66.18	86.49	909.86	94.13	13.75
Teff	10.96	14.32	87.91	9.10	8.02
Barley	**	**	**	**	**
Wheat	**	**	**	**	**
Maize	6.79	8.87	126.48	13.09	18.63
Sorghum	23.15	30.25	410.91	42.51	17.75
Millet	21.13	27.61	246.63	25.52	11.67
Oats	**	**	-	-	**
Pulses	3.71	4.85	20.55	2.13	5.54
Horse Beans	**	**	**	**	**
Field Peas	**	**	**	**	**
Haricot Beans	1.62	2.12	**	**	4.22
Chick Peas	**	**	-	-	**
Lentils	**	**	**	**	**
Vetch	-	-	-	-	-
Others	6.64	8.68	36.16	3.74	5.45
Neug	3.34	4.36	9.48	.98	2.84
Linseed	**	**	**	**	**
Rapeseed	**	**	-	-	**
Ground Nuts	**	**	**	**	**
Sunflower	-	-	-	-	-
Sesame	2.59	3.38	19.79	2.05	7.64
Fenugreek	-	-	-	-	-
All Crops	76.52	100.00	966.57	100.00	12.63

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

Table 9.2. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

Asosa Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	40.40	78.65	458.48	90.96	11.35
Teff	5.35	10.41	17.13	3.40	3.20
Barley	**	**	-	-	**
Wheat	**	**	-	-	**
Maize	13.33	25.95	190.20	37.74	14.27
Sorghum	20.41	39.73	245.07	48.62	12.01
Millet	1.04	2.02	6.08	1.21	5.85
Oats	-	-	-	-	-
Pulses	1.32	2.57	8.67	1.72	6.57
Horse Beans	**	**	-	-	**
Field Peas	-	-	-	-	-
Haricot Beans	1.23	2.39	8.64	1.71	7.02
Chick Peas	**	**	**	**	**
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	9.65	18.79	36.88	7.32	3.82
Neug	7.44	14.48	26.38	5.23	3.55
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	.66	1.28	3.34	.66	5.06
Sunflower	**	**	**	**	**
Sesame	1.43	2.78	6.64	1.32	4.64
Fenugreek	-	-	-	-	-
All Crops	51.37	100.00	504.03	100.00	9.81

Table 9.3. Kemeshi Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	21.12	88.74	365.27	96.70	17.29
Teff	**	**	**	**	**
Barley	**	**	**	**	**
Wheat	-	-	-	-	-
Maize	**	**	**	**	**
Sorghum	5.82	24.45	97.75	25.88	16.80
Millet	**	**	**	**	**
Oats	-	-	-	-	-
Pulses	**	**	**	**	**
Horse Beans	**	**	**	**	**
Field Peas	**	**	**	**	**
Haricot Beans	**	**	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	1.17	4.92	5.58	1.48	4.77
Neug	**	**	**	**	**
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	.05	.21	-	-	-
Sunflower	-	-	-	-	-
Sesame	.89	3.74	4.65	1.23	5.22
Fenugreek	-	-	-	-	-
All Crops	23.80	100.00	377.75	100.00	15.87

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

Table 10. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

(S.N.N.P.R)

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	597.83	88.16	7,463.02	92.60	12.48
Teff	185.67	27.38	1,367.80	16.97	7.37
Barley	57.82	8.53	666.37	8.27	11.52
Wheat	85.34	12.59	1,327.59	16.47	15.56
Maize	178.92	26.39	2,998.97	37.21	16.76
Sorghum	87.00	12.83	1,080.66	13.41	12.42
Millet	2.97	.44	20.35	.25	6.85
Oats	**	**	**	**	**
Pulses	76.47	11.28	578.05	7.17	7.56
Horse Beans	23.27	3.43	229.46	2.85	9.86
Field Peas	18.12	2.67	165.31	2.05	9.12
Haricot Beans	30.74	4.53	162.64	2.02	5.29
Chick Peas	3.18	.47	**	**	**
Lentils	**	**	1.20	.01	1.64
Vetch	**	**	**	**	**
Others	3.79	.56	18.66	.23	4.92
Neug	**	**	**	**	**
Linseed	1.01	.15	5.40	.07	5.35
Rapeseed	**	**	**	**	**
Ground Nuts	**	**	-	-	-
Sunflower	.45	.07	5.03	.06	11.18
Sesame	**	**	**	**	**
Fenugreek	1.26	.19	**	**	**
All Crops	678.10	100.00	8,059.73	100.00	11.89

Table 10.1. Gurage Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	142.45	89.94	2,200.19	93.91	15.45
Teff	42.82	27.04	418.32	17.85	9.77
Barley	18.30	11.55	328.53	14.02	17.95
Wheat	19.32	12.20	283.38	12.09	14.67
Maize	43.48	27.45	922.79	39.39	21.22
Sorghum	18.50	11.68	246.92	10.54	13.35
Millet	**	**	**	**	**
Oats	-	-	-	-	-
Pulses	14.79	9.34	140.38	5.99	9.49
Horse Beans	5.45	3.44	69.04	2.95	12.67
Field Peas	**	**	**	**	**
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	**	**	**	**	**
Others	1.14	.72	2.42	.10	2.12
Neug	**	**	**	**	**
Linseed	**	**	**	**	**
Rapeseed	**	**	**	**	**
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	158.38	100.00	2,342.99	100.00	14.79

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

Table 10.2. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

Hadiya Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	85.35	90.71	1,166.42	91.68	13.67
Teff	19.74	20.98	166.71	13.10	8.45
Barley	5.10	5.42	67.62	5.31	13.26
Wheat	35.43	37.66	622.33	48.91	17.57
Maize	16.35	17.38	177.57	13.96	10.86
Sorghum	8.21	8.73	128.94	10.13	15.71
Millet	**	**	**	**	**
Oats	**	**	**	**	**
Pulses	8.35	8.87	104.02	8.18	12.46
Horse Beans	4.42	4.70	53.50	4.20	12.10
Field Peas	3.21	3.41	45.61	3.58	14.21
Haricot Beans	.64	.68	**	**	**
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	-	-	-	-	-
Others	.39	.41	**	**	**
Neug	-	-	-	-	-
Linseed	.32	.34	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	-	-	-
All Crops	94.09	100.00	1,272.32	100.00	13.52

Table 10.3. Kembata Alaba Tembaro Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	63.90	94.18	955.98	96.24	14.96
Teff	15.70	23.14	131.58	13.25	8.38
Barley	1.09	1.61	12.07	1.22	11.07
Wheat	16.18	23.85	250.17	25.19	15.46
Maize	27.39	40.37	519.94	52.35	18.98
Sorghum	1.97	2.90	26.72	2.69	13.56
Millet	1.56	2.30	**	**	**
Oats	-	-	-	-	-
Pulses	2.84	4.19	30.06	3.03	10.58
Horse Beans	1.44	2.12	**	**	**
Field Peas	**	**	**	**	**
Haricot Beans	.67	.99	3.38	.34	5.04
Chick Peas	-	-	-	-	-
Lentils	**	**	**	**	**
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	**	**	-	-	-
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	67.85	100.00	993.29	100.00	14.64

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

Table 10.4. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

Sidama Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	23.14	78.02	372.89	92.69	16.11
Teff	.78	2.63	**	**	**
Barley	2.13	7.18	**	**	**
Wheat	**	**	**	**	**
Maize	18.96	63.92	317.00	78.80	16.72
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	6.53	22.02	29.40	7.31	4.50
Horse Beans	.77	2.60	5.45	1.35	7.08
Field Peas	-	-	-	-	-
Haricot Beans	5.74	19.35	23.88	5.94	4.16
Chick Peas	**	**	**	**	**
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	29.66	100.00	402.29	100.00	13.56

Table 10.5. Gedio Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	9.49	87.55	133.97	92.03	14.12
Teff	**	**	**	**	**
Barley	**	**	**	**	**
Wheat	**	**	**	**	**
Maize	7.32	67.53	112.30	77.15	15.34
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	1.32	12.18	11.07	7.60	8.39
Horse Beans	.66	6.09	7.83	5.38	11.86
Field Peas	**	**	**	**	**
Haricot Beans	**	**	**	**	**
Chick Peas	-	-	-	-	-
Lentils	**	**	**	**	**
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	-	-	-	-	-
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	**	**	**
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	10.84	100.00	145.57	100.00	13.43

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

Table 10.6. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

North Omo Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	163.70	86.66	1,575.36	91.37	9.62
Teff	78.98	41.81	470.69	27.30	5.96
Barley	20.23	10.71	148.56	8.62	7.34
Wheat	5.72	3.03	**	**	**
Maize	36.75	19.46	597.60	34.66	16.26
Sorghum	21.44	11.35	300.87	17.45	14.03
Millet	**	**	**	**	**
Oats	**	**	**	**	**
Pulses	24.63	13.04	147.23	8.54	5.98
Horse Beans	3.89	2.06	26.61	1.54	6.84
Field Peas	4.05	2.14	**	**	**
Haricot Beans	15.03	7.96	82.61	4.79	5.50
Chick Peas	**	**	**	**	**
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	-	-	-	-	-
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	**	**	**
Sesame	**	**	**	**	**
Fenugreek	-	-	-	-	-
All Crops	188.89	100.00	1,724.16	100.00	9.13

Table 10.7. South Omo Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	29.56	92.55	267.21	94.70	9.04
Teff	2.98	9.33	8.37	2.97	2.81
Barley	2.12	6.64	**	**	**
Wheat	1.06	3.32	**	**	**
Maize	11.09	34.72	128.44	45.52	11.58
Sorghum	12.16	38.07	75.76	26.85	6.23
Millet	.15	.47	.23	.08	1.53
Oats	**	**	-	-	-
Pulses	1.92	6.01	10.27	3.64	5.35
Horse Beans	**	**	**	**	**
Field Peas	**	**	**	**	**
Haricot Beans	1.16	3.63	3.88	1.38	3.34
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	**	**	**	**	**
Others	.46	1.44	4.67	1.66	10.15
Neug	-	-	-	-	-
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	**	**	-	-	-
Sunflower	.39	1.22	4.49	1.59	11.51
Sesame	**	**	**	**	**
Fenugreek	-	-	-	-	-
All Crops	31.94	100.00	282.15	100.00	8.83

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

Table 10.8. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

Keficho-Shekicho Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	36.25	75.19	367.79	82.63	10.15
Teff	15.30	31.74	107.08	24.06	7.00
Barley	4.53	9.40	29.26	6.57	6.46
Wheat	3.01	6.24	20.67	4.64	6.87
Maize	3.67	7.61	50.02	11.24	13.63
Sorghum	9.58	19.87	160.22	36.00	16.72
Millet	**	**	**	**	**
Oats	-	-	-	-	-
Pulses	11.94	24.77	77.29	17.36	6.47
Horse Beans	4.88	10.12	29.84	6.70	6.11
Field Peas	4.92	10.21	27.92	6.27	5.67
Haricot Beans	2.14	4.44	19.53	4.39	9.13
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	-	-	-	-	-
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	48.21	100.00	445.11	100.00	9.23

Table 10.9. Bench-Maji Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	11.29	93.38	165.44	97.13	14.65
Teff	2.13	17.62	8.28	4.86	3.89
Barley	.70	5.79	6.31	3.70	9.01
Wheat	**	**	**	**	**
Maize	4.30	35.57	82.06	48.18	19.08
Sorghum	4.01	33.17	68.00	39.92	16.96
Millet	**	**	-	-	-
Oats	**	**	**	**	**
Pulses	.80	6.62	4.89	2.87	6.11
Horse Beans	.30	2.48	2.64	1.55	8.80
Field Peas	**	**	**	**	**
Haricot Beans	.26	2.15	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	**	**	**	**	**
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	12.09	100.00	170.33	100.00	14.09

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

Table 10.10. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

Yem Special Wereda Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	8.65	86.59	80.03	87.47	9.25
Teff	3.52	35.24	28.37	31.01	8.06
Barley	.96	9.61	8.43	9.21	8.78
Wheat	2.28	22.82	22.77	24.89	9.99
Maize	1.44	14.41	17.50	19.13	12.15
Sorghum	.44	4.40	2.90	3.17	6.59
Millet	**	**	**	**	**
Oats	**	**	**	**	**
Pulses	1.31	13.11	11.38	12.44	8.69
Horse Beans	.80	8.01	7.54	8.24	9.43
Field Peas	.47	4.70	3.54	3.87	7.53
Haricot Beans	**	**	**	**	**
Chick Peas	-	-	-	-	-
Lentils	.04	.40	.28	.31	7.00
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	-	-	-	-	-
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	9.99	100.00	91.49	100.00	9.16

Table 10.11. Amaro Special Wereda Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	3.39	84.54	34.67	91.96	10.23
Teff	1.58	39.40	12.92	34.27	8.18
Barley	.68	16.96	5.80	15.38	8.53
Wheat	.27	6.73	2.93	7.77	10.85
Maize	**	**	**	**	**
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	**	**	3.01	7.98	4.85
Horse Beans	.07	1.75	.44	1.17	6.29
Field Peas	.14	3.49	.94	2.49	6.71
Haricot Beans	.08	2.00	1.05	2.79	13.13
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	**	**	**	**	**
Linseed	-	-	-	-	-
Rapeseed	**	**	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	4.01	100.00	37.70	100.00	9.40

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

Table 10.12. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

Burji Special Wereda Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	1.69	88.95	23.70	93.16	14.02
Teff	.36	18.95	2.67	10.50	7.42
Barley	.12	6.32	.93	3.66	7.75
Wheat	.24	12.63	1.95	7.67	8.13
Maize	.43	22.63	11.54	45.36	26.84
Sorghum	.55	28.95	6.60	25.94	12.00
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.21	11.05	1.74	6.84	8.29
Horse Beans	**	**	**	**	**
Field Peas	**	**	**	**	**
Haricot Beans	.14	7.37	1.42	5.58	10.14
Chick Peas	.05	2.63	.23	.90	4.60
Lentils	**	**	**	**	**
Vetch	-	-	-	-	-
Others	**	**	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	**	**	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	1.90	100.00	25.44	100.00	13.39

Table 10.13. Konso Special Wereda Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	10.92	92.70	50.31	89.01	4.61
Teff	1.07	9.08	1.59	2.81	1.49
Barley	**	**	**	**	**
Wheat	-	-	-	-	-
Maize	3.05	25.89	12.38	21.90	4.06
Sorghum	6.75	57.30	36.23	64.10	5.37
Millet	**	**	**	**	**
Oats	-	-	-	-	-
Pulses	.83	7.05	**	**	**
Horse Beans	**	**	**	**	**
Field Peas	**	**	**	**	**
Haricot Beans	.83	7.05	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	**	**	**	**	**
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	11.78	100.00	56.52	100.00	4.80

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

Table 10.14. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

Derashe Special Wereda Zone

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	8.05	95.04	69.05	98.14	8.58
Teff	**	**	2.38	3.38	4.76
Barley	.32	3.78	2.31	3.28	7.22
Wheat	**	**	**	**	**
Maize	3.94	46.52	38.41	54.59	9.75
Sorghum	3.27	38.61	25.83	36.71	7.90
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.39	4.60	1.24	1.76	3.18
Horse Beans	**	**	**	**	**
Field Peas	**	**	**	**	**
Haricot Beans	.29	3.42	.78	1.11	2.69
Chick Peas	**	**	**	**	**
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	**	**	**	**	**
Ground Nuts	-	-	-	-	-
Sunflower	**	**	**	**	**
Sesame	**	**	**	**	**
Fenugreek	-	-	-	-	-
All Crops	8.47	100.00	70.36	100.00	8.31

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

Table 11. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

Gambela

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	12.52	96.16	321.95	99.47	25.71
Teff	-	-	-	-	-
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	8.14	62.52	246.05	76.02	30.23
Sorghum	4.20	32.26	74.37	22.98	17.71
Millet	**	**	**	**	**
Oats	-	-	-	-	-
Pulses	.03	.23	**	**	**
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	**	**	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	**	**	**	**	**
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	.07	.54	**	**	**
Sunflower	-	-	-	-	-
Sesame	**	**	**	**	**
Fenugreek	-	-	-	-	-
All Crops	13.02	100.00	323.65	100.00	24.86

Table 12. Harari

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	4.77	81.54	23.20	87.02	4.86
Teff	-	-	-	-	-
Barley	.02	.34	**	**	**
Wheat	.13	2.22	**	**	**
Maize	1.21	20.68	4.84	18.15	4.00
Sorghum	3.40	58.12	17.54	65.79	5.16
Millet	-	-	-	-	-
Oats	**	**	**	**	**
Pulses	.04	.68	**	**	**
Horse Beans	-	-	-	-	-
Field Peas	**	**	**	**	**
Haricot Beans	.03	.51	**	**	**
Chick Peas	-	-	**	**	**
Lentils	**	**	**	**	**
Vetch	-	-	-	-	-
Others	1.03	17.61	3.26	12.23	3.17
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	1.03	17.61	3.26	12.23	3.17
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	5.85	100.00	26.66	100.00	4.56

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

Table 13. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1998/99 (1991 E.C.)

Addis Ababa

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	5.17	80.66	67.81	82.07	13.12
Teff	3.07	47.89	38.42	46.50	12.51
Barley	**	**	**	**	**
Wheat	1.92	29.95	27.16	32.87	14.15
Maize	.01	.16	.13	.16	13.00
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	1.19	18.56	14.43	17.47	12.13
Horse Beans	.07	1.09	.80	.97	11.43
Field Peas	**	**	**	**	**
Haricot Beans	-	-	-	-	-
Chick Peas	.56	8.74	6.79	8.22	12.13
Lentils	.09	1.40	.35	.42	3.89
Vetch	.46	7.18	6.45	7.81	14.02
Others	.05	.78	.38	.46	7.60
Neug	-	-	-	-	-
Linseed	**	**	.07	.08	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	.04	.62	.30	.36	7.50
All Crops	6.41	100.00	82.62	100.00	12.89

Table 14. Dire Dawa

CROP	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	(000' hectare)	%	(000' quintal)	%	
Cereals	5.90	95.93	62.52	98.81	10.60
Teff	-	-	**	**	**
Barley	-	-	-	-	-
Wheat	-	-	**	**	**
Maize	.21	3.41	1.52	2.40	7.24
Sorghum	5.70	92.68	60.98	96.38	10.70
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.23	3.74	.73	1.15	3.17
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	.23	3.74	.73	1.15	3.17
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	.02	.33	**	**	**
Neug	-	-	-	-	-
Linseed	-	-	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	**	**	-	-	**
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	6.15	100.00	63.27	100.00	10.29

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

# **APPENDIX I**

## **ESTIMATION PROCEDURES OF TOTAL, RATIO AND SAMPLING ERRORS**

APPENDIX I. ESTIMATION PROCEDURES OF TOTAL, RATIO AND SAMPLING ERRORS

Estimator of Total

The estimate of stratum total  $\hat{Y}_h$  is given by:

$$\hat{Y}_h = \sum_{i1}^{n_h} \left[ \frac{M_h}{n_h M_{hi}} \frac{H_{hi}}{h_{hi}} \sum_{j1}^{h_{hi}} Y_{hij} \right] \quad (1)$$

Where:

$N_h$  = total number of EAs in stratum h

$n_h$  = number of sample EAs in stratum h

$M_{hi}$  = total number of households of EA i in stratum h obtained from the 1994 census map work

$M_h$  =  $\sum_{i1}^{N_h} M_{hi}$  , total number of households of stratum h

$H_{hi}$  = total number of agricultural households listed during the survey for EA i in stratum h

$h_{hi}$  = number of agricultural households and successfully covered

$Y_{hij}$  = the observed value of the variable y for agricultural households j, of EA i in stratum h

$\hat{Y}_h$  = estimated total for variable Y in stratum h, given by formula (1)

$\hat{X}_h$  = estimated total for variable X in stratum h, given by formula (2)

### Estimator of variance for ratio

The variance of a ratio is given by

$$v(\hat{R}_h) = \frac{1}{\hat{X}_h^2} [v(\hat{Y}_h) + \hat{R}_h^2 v(\hat{X}_h) - 2\hat{R}_h \text{cov}(\hat{X}_h, \hat{Y}_h)] \quad (3)$$

### Coefficient of variation of ratio

The coefficient of variation of ratio is defined as:

$$cv = \frac{\sqrt{v(\hat{R}_h)}}{\hat{R}_h} \times 100$$

### Confidence Interval for Total

The confidence interval (CI) for a total is:

$$CI_{(1-\alpha)} = \hat{Y} \pm t_{(1-\alpha)} \hat{SE}$$

Where:

$\hat{Y}$  = estimate of a population total.

$t_{(1-\alpha)}$  = level of probability under the normal distribution, with  $\alpha$  the acceptable level of error.

$\hat{SE}$  =  $\sqrt{v(\hat{Y})}$  = standard error of a total.

## **APPENDIX II**

# **STANDARD ERROR AND COEFFICIENT OF VARIATION FOR AREA AND PRODUCTION FORECAST**

APPENDIX II STANDARD ERROR AND COEFFICIENT OF VARIATION FOR FORECAST OF  
 AREA AND PRODUCTION, OF MAJOR CROPS, 1998/99 (1991 E.C.)  
 STANDARD ERROR AND COEFFICIENT OF VARIATION FOR FORECAST OF  
 AREA AND PRODUCTION, OF MAJOR CROPS, ETHIOPIA  
 1998/99 (1991 E.C.)

NATIONAL

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
CEREALS	6814.93	151.45	2.22	79504.44	2372.72	2.98
TEFF	2083.19	76.79	3.69	16688.84	843.39	5.05
BARELY	817.37	59.47	7.28	9417.01	937.13	9.95
WHEAT	1040.41	87.09	8.37	14042.53	1456.67	10.37
MAIZE	1375.53	53.99	3.92	23073.77	1251.98	5.43
SORGHUM	1053.76	53.24	5.05	12382.05	756.53	6.11
MILLET	406.19	31.43	7.74	3539.72	326.87	9.23
OATS	45.41	6.16	13.57	466.53	7.95	16.49
PULSES	819.95	36.93	4.50	7382.32	419.04	5.68
HORSEBEANS	307.02	18.43	6.00	3089.22	220.41	7.13
FIELDPEAS	144.09	12.61	8.75	1175.36	155.59	13.24
HARICOTBEANS	131.37	14.65	11.15	943.18	155.12	16.45
CHICKPEAS	118.37	15.28	12.91	1170.02	119.11	14.45
LENTILS	52.26	7.75	14.84	354.61	63.70	17.96
VECTH	67.87	11.76	17.33	661.67	132.77	20.07
OTHERS	424.22	29.03	6.84	1767.76	141.19	7.99
NEUG	238.31	24.37	10.23	815.38	100.00	12.28
LINSEED	96.24	10.05	10.44	440.23	63.32	14.38
RAPESEED	10.10	2.01	19.91	99.64	25.86	25.95
GROUNDNUTS	15.21	5.99	39.40	69.58	34.07	48.96
SUNFLOWER	4.21	1.00	23.64	25.85	5.65	21.87
SEASAME	39.75	10.41	26.19	219.56	64.59	29.42
FENUGREEK	20.53	3.55	17.31	98.13	18.76	19.12
ALL CROPS	8059.10	172172.65	2.14	88654.53	2508.84	2.83

STANDARD ERROR AND COEFFICIENT OF VARIATION FOR FORECAST OF  
 AREA AND PRODUCTION, OF MAJOR CROPS, 1998/99 (1991 E.C.)

TIGRAY

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
CEREALS	527.38	28.28	5.36	5443.64	399.29	7.33
TEFF	135.64	11.08	8.17	792.19	71.66	9.05
BARELY	87.70	9.35	10.66	833.33	113.49	13.62
WHEAT	57.38	6.67	11.63	572.18	87.19	15.24
MAIZE	73.47	8.82	12.01	1263.17	184.22	14.58
SORGHUM	104.99	15.90	15.14	1369.89	211.29	15.42
MILLET	67.99	9.36	13.77	611.76	112.07	18.32
OATS	**	**	**	**	**	**
PULSES	31.60	3.22	10.19	301.94	40.47	13.40
HORSEBEANS	10.69	1.81	16.91	136.46	26.50	19.42
FIELDPEAS	4.14	1.22	29.34	50.73	20.42	40.25
HARICOTBEANS	2.27	0.94	41.19	9.14	3.55	38.80
CHICKPEAS	5.17	1.75	33.92	44.95	17.57	39.09
LENTILS	3.52	0.93	26.32	23.07	6.58	28.51
VECTH	5.80	1.95	33.68	37.59	13.42	35.71
OTHERS	27.66	6.77	24.48	153.46	42.54	27.72
NEUG	5.39	1.80	33.34	11.48	5.10	44.44
LINSEED	7.81	1.85	23.67	55.61	18.51	33.28
RAPESEED	-	-	-	-	-	-
GROUNDNUTS	-	-	-	-	-	-
SUNFLOWER	**	**	**	**	**	**
SEASAME	13.96	6.45	46.21	84.12	38.56	45.83
FENUGREEK	0.48	0.23	47.83	1.94	0.90	46.30
ALL CROPS	586.64	31.35	5.34	5899.04	416.28	7.06

Abbreviations

S.E. = Standard Error

C.V. = Coefficient of Variation

- = Insignificant or not available

STANDARD ERROR AND COEFFICIENT OF VARIATION FOR FORECAST OF  
AREA AND PRODUCTION, OF MAJOR CROPS, 1997/98(1991 E.C.)  
1998/99 (1991 E.C.)

AFAR

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
CEREALS	13.28	2.82	21.26	91.97	21.08	22.92
TEFF	5.47	1.56	28.56	32.70	10.01	30.60
BARELY	**	**	**	**	**	**
WHEAT	**	**	**	**	**	**
MAIZE	2.17	0.45	20.67	26.13	7.31	27.98
SORGHUM	5.07	1.14	22.53	26.96	7.01	26.02
MILLET	-	-	-	-	-	-
OATS	-	-	-	-	-	-
PULSES	0.89	0.32	35.90	1.03	0.49	47.36
HORSEBEANS	-	-	-	-	-	-
FIELDPEAS	**	**	**	-	-	-
HARICOTBEANS	0.66	0.29	43.28	**	**	**
CHICKPEAS	0.21	0.09	44.80	**	**	**
LENTILS	-	-	-	-	-	-
VECTH	-	-	-	-	-	-
OTHERS	**	**	**	**	**	**
NEUG	-	-	-	-	-	-
LINSEED	-	-	-	-	-	-
RAPESEED	-	-	-	-	-	-
GROUNDNUTS	-	-	-	-	-	-
SUNFLOWER	**	**	**	**	**	**
SEASAME	**	**	**	**	**	**
FENUGREEK	-	-	-	-	-	-
ALL CROPS	14.33	3.14	21.90	93.06	21.43	23.03

STANDARD ERROR AND COEFFICIENT OF VARIATION FOR FORECAST OF  
AREA AND PRODUCTION, OF MAJOR CROPS, 1998/99 (1991 E.C.)

AMHARA

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
CEREALS	2338.65	80.64	3.45	22606.61	1049.04	4.64
TEFF	843.57	45.87	5.44	6536.41	482.90	7.39
BARELY	270.72	22.17	8.19	2303.34	244.20	10.60
WHEAT	257.48	25.86	10.04	2577.76	324.30	12.58
MAIZE	309.17	21.04	6.80	4744.63	390.28	8.23
SORGHUM	412.27	37.65	9.13	4345.47	535.79	12.33
MILLET	233.47	26.50	11.35	1992.94	271.12	13.60
OATS	11.97	3.06	25.53	106.05	32.53	30.67
PULSES	382.65	26.20	6.85	3275.62	262.66	8.02
HORSEBEANS	134.95	11.73	8.69	1176.33	111.14	9.45
FIELDPEAS	60.09	7.49	12.46	390.43	51.16	13.10
HARICOTBEANS	40.76	9.48	23.26	332.20	112.36	33.82
CHICKPEAS	74.14	11.17	15.06	730.11	121.96	16.70
LENTILS	33.22	6.95	20.93	255.31	60.92	23.86
VECTH	39.49	9.03	22.87	391.24	105.58	26.99
OTHERS	201.81	22.29	11.04	776.79	98.03	12.62
NEUG	136.74	20.41	14.92	459.46	79.97	17.40
LINSEED	27.80	3.73	13.42	86.59	16.01	18.49
RAPESEED	4.37	0.99	22.65	66.75	22.70	34.01
GROUNDNUTS	**	**	82.17	-	-	-
SUNFLOWER	3.60	0.99	27.35	20.07	5.28	26.30
SEASAME	17.80	8.00	44.95	**	50.64	53.95
FENUGREEK	11.05	2.95	26.73	50.06	14.99	29.94
ALL CROPS	2923.11	99.98	3.42	26659.02	1154.54	4.33

Abbreviations

S.E. = Standard Error

C.V. = Coefficient of Variation

- = Insignificant or not available

STANDARD ERROR AND COEFFICIENT OF VARIATION FOR FORECAST OF  
AREA AND PRODUCTION, OF MAJOR CROPS, 1998/99 (1991 E.C.)

OROMIYA

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
CEREALS	3151.76	115.77	3.68	41568.44	1966.93	4.74
TEFF	890.80	55.26	6.20	7798.84	647.33	8.30
BARELY	395.44	52.93	13.38	5575.13	882.97	15.84
WHEAT	633.89	82.27	12.98	9502.53	1405.91	14.80
MAIZE	754.89	44.18	5.85	13186.03	1093.62	8.31
SORGHUM	368.26	31.82	8.64	4568.52	435.78	9.54
MILLET	75.63	11.33	14.98	800.11	97.34	16.22
OATS	32.85	5.35	16.28	357.28	69.73	19.52
PULSES	320.86	24.47	7.65	3182.12	316.35	9.98
HORSEBEANS	136.62	13.73	10.05	1533.08	185.01	12.07
FIELDPEAS	60.70	9.37	15.43	564.86	139.61	24.72
HARICOTBEANS	52.70	9.42	17.87	415.95	102.24	24.58
CHICKPEAS	34.48	10.17	29.48	369.29	115.07	31.16
LENTILS	14.66	3.27	22.30	74.55	17.42	23.37
VECTH	21.69	7.27	33.53	224.40	79.36	35.37
OTHERS	171.46	17.05	9.95	733.90	90.49	12.34
NEUG	84.54	12.91	15.27	307.36	59.29	19.29
LINSEED	59.35	9.14	15.40	292.09	58.35	19.98
RAPESEED	5.64	1.75	31.02	32.70	12.37	37.83
GROUNDNUTS	12.09	5.95	49.18	*	**	**
SUNFLOWER	**	**	**	-	-	-
SEASAME	**	**	**	*	**	**
FENUGREEK	7.61	1.87	24.57	38.03	10.46	27.51
ALL CROPS	3644.11	127.50	3.51	45484.46	2063.96	4.55

STANDARD ERROR AND COEFFICIENT OF VARIATION FOR FORECAST OF  
AREA AND PRODUCTION, OF MAJOR CROPS, 1998/99 (1991 E.C.)

SOMALE

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
CEREALS	36.89	5.93	16.23	227.66	44.93	19.87
TEFF	**	**	**	**	**	**
BARELY	3.08	0.88	28.61	16.02	5.07	31.65
WHEAT	1.83	0.73	39.77	**	**	**
MAIZE	18.39	4.44	24.13	115.80	38.22	33.00
SORGHUM	13.47	3.30	24.46	83.45	25.59	30.67
MILLET	-	-	-	-	-	-
OATS	**	**	**	**	**	**
PULSES	0.49	0.20	40.40	**	**	**
HORSEBEANS	-	-	-	-	-	-
FIELDPEAS	-	-	-	-	-	-
HARICOTBEANS	**	**	**	**	**	**
CHICKPEAS	**	**	**	**	**	**
LENTILS	-	-	-	-	-	-
VECTH	-	-	-	-	-	-
OTHERS	**	**	**	**	**	**
NEUG	-	-	-	-	-	-
LINSEED	**	**	**	**	**	**
RAPESEED	**	**	**	**	**	**
GROUNDNUTS	**	**	**	**	**	**
SUNFLOWER	-	-	-	-	-	-
SEASAME	**	**	**	**	**	**
FENUGREEK	**	**	**	**	**	**
ALL CROPS	37.80	5.94	15.88	233.00	45.05	19.46

Abbreviations

S.E. = Standard Error

C.V. = Coefficient of Variation

- = Insignificant or not available

STANDARD ERROR AND COEFFICIENT OF VARIATION FOR FORECAST OF  
AREA AND PRODUCTION, OF MAJOR CROPS, 1998/99 (1991 E.C.)

BENSHANGUL GUMUZ.

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
CEREALS	127.70	14.94	11.70	1733.82	270.69	15.61
TEFF	18.93	3.84	20.30	122.39	35.69	29.16
BARELY	**	**	**	**	**	**
WHEAT	**	**	**	**	**	**
MAIZE	28.95	6.09	21.05	506.50	120.06	23.70
SORGHUM	49.38	5.03	10.18	753.73	141.82	18.82
MILLET	25.96	8.28	31.91	313.03	105.94	33.84
OATS	**	**	**	-	-	-
PULSES	6.53	1.48	22.64	36.12	10.28	28.47
HORSEBEANS	1.41	0.61	43.67	**	**	**
FIELDPEAS	**	**	**	**	**	**
HARICOTBEANS	3.72	0.97	26.17	19.00	5.83	30.67
CHICKPEAS	**	**	**	**	**	**
LENTILS	**	**	**	**	**	**
VECTH	-	-	-	-	-	-
OTHERS	17.46	2.88	16.48	78.82	17.16	21.83
NEUG	11.01	2.74	24.85	36.72	8.85	24.06
LINSEED	0.20	0.09	45.05	**	**	**
RAPESEED	**	**	**	-	-	-
GROUNDNUTS	1.31	0.52	40.18	**	**	**
SUNFLOWER	**	**	**	**	**	**
SEASAME	4.91	1.09	22.20	31.08	9.72	31.28
FENUGREEK	-	-	-	-	-	-
ALL CROPS	151.69	16.31	10.75	1848.36	276.64	14.97

STANDARD ERROR AND COEFFICIENT OF VARIATION FOR FORECAST OF  
AREA AND PRODUCTION, OF MAJOR CROPS, 1998/99 (1991 E.C.)

S.N.N.P.R

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
CEREALS	597.83	44.22	7.40	7463.02	645.57	8.65
TEFF	185.67	24.47	13.18	1367.80	229.22	16.76
BARELY	57.82	12.31	21.30	666.37	160.71	24.12
WHEAT	85.34	10.00	11.72	1327.59	179.69	13.53
MAIZE	178.92	19.47	10.88	2998.97	401.08	13.37
SORGHUM	87.00	10.62	12.21	1080.66	171.27	15.85
MILLET	2.97	0.97	32.79	20.35	8.80	43.23
OATS	**	**	**	**	**	**
PULSES	76.47	8.14	10.65	578.05	69.10	11.96
HORSEBEANS	23.27	3.20	13.73	229.46	35.22	15.35
FIELDPEAS	18.12	3.67	20.23	165.31	40.95	24.77
HARICOTBEANS	30.74	5.83	18.96	162.64	30.53	18.77
CHICKPEAS	3.18	1.45	45.63	**	**	**
LENTILS	**	**	**	1.20	0.53	43.97
VECTH	**	**	**	**	**	**
OTHERS	3.79	0.92	24.24	18.66	5.25	28.11
NEUG	**	**	**	**	**	**
LINSEED	1.01	0.35	34.33	5.40	2.42	44.87
RAPESEED	**	**	**	**	**	**
GROUNDNUTS	**	**	**	-	-	-
SUNFLOWER	0.45	0.12	25.55	5.03	1.96	38.93
SEASAME	**	**	**	**	**	**
FENUGREEK	1.26	0.59	46.73	**	**	**
ALL CROPS	678.10	47.45	7.00	8059.73	663.64	8.23

Abbreviations

S.E. = Standard Error

C.V. = Coefficient of Variation

- = Insignificant or not available

STANDARD ERROR AND COEFFICIENT OF VARIATION FOR FORECAST OF  
AREA AND PRODUCTION, OF MAJOR CROPS, 1998/99 (1991 E.C.)

GAMBELA

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
CEREALS	12.52	303.00	24.19	321.95	91.98	28.57
TEFF	-	-	-	-	-	-
BARELY	-	-	-	-	-	-
WHEAT	-	-	-	-	-	-
MAIZE	8.14	2.50	30.68	246.05	91.54	37.20
SORGHUM	4.20	1.14	27.20	74.37	22.46	30.19
MILLET	**	**	**	**	**	**
OATS	-	-	-	-	-	-
PULSES	**	**	**	**	**	**
HORSEBEANS	-	-	-	-	-	-
FIELDPEAS	-	-	-	-	-	-
HARICOTBEANS	**	**	**	**	**	**
CHICKPEAS	-	-	-	-	-	-
LENTILS	-	-	-	-	-	-
VECTH	-	-	-	-	-	-
OTHERS	**	**	**	**	**	**
NEUG	-	-	-	-	-	-
LINSEED	-	-	-	-	-	-
RAPESEED	-	-	-	-	-	-
GROUNDNUTS	0.07	0.03	39.38	**	**	**
SUNFLOWER	-	-	-	-	-	-
SEASAME	**	**	**	**	**	**
FENUGREEK	-	-	-	-	-	-
ALL CROPS	13.02	3.06	23.51	323.65	92.13	28.47

STANDARD ERROR AND COEFFICIENT OF VARIATION FOR FORECAST OF  
AREA AND PRODUCTION, OF MAJOR CROPS, 1998/99 (1991 E.C.)

HARARI

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
CEREALS	4.77	0.38	7.87	23.20	3.18	13.69
TEFF	-	-	-	-	-	-
BARELY	0.02	0.01	49.67	**	**	**
WHEAT	0.13	0.06	46.20	**	**	**
MAIZE	1.21	0.11	9.19	4.84	0.77	15.94
SORGHUM	3.40	0.35	10.23	17.54	2.59	14.75
MILLET	-	-	-	-	-	-
OATS	**	**	**	**	**	**
PULSES	0.04	0.02	43.77	**	**	**
HORSEBEANS	-	-	-	-	-	-
FIELDPEAS	**	**	**	**	**	**
HARICOTBEANS	0.03	0.01	44.41	**	**	**
CHICKPEAS	-	-	-	-	-	-
LENTILS	**	**	**	**	**	**
VECTH	-	-	-	-	-	-
OTHERS	1.03	0.28	26.67	3.26	0.92	28.30
NEUG	-	-	-	-	-	-
LINSEED	-	-	-	-	-	-
RAPESEED	-	-	-	-	-	-
GROUNDNUTS	1.03	0.28	26.67	3.26	0.92	28.30
SUNFLOWER	-	-	-	-	-	-
SEASAME	-	-	-	-	-	-
FENUGREEK	-	-	-	-	-	-
ALL CROPS	5.85	0.50	8.53	26.66	3.30	12.37

Abbreviations

S.E. = Standard Error

C.V. = Coefficient of Variation

- = Insignificant or not available

STANDARD ERROR AND COEFFICIENT OF VARIATION FOR FORECAST OF  
AREA AND PRODUCTION, OF MAJOR CROPS, 1998/99 (1991 E.C.)

ADDIS ABABA

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
CEREALS	5.17	0.65	12.50	67.81	8.40	12.39
TEFF	3.07	0.47	15.16	38.42	5.41	14.08
BARELY	**	**	**	**	**	**
WHEAT	1.92	0.29	15.07	27.16	4.41	16.25
MAIZE	0.01	0.01	42.96	0.13	0.06	48.45
SORGHUM	**	**	**	**	**	**
MILLET	-	-	-	-	-	-
OATS	-	-	-	-	-	-
PULSES	1.19	0.22	18.35	14.43	2.70	18.69
HORSEBEANS	0.07	0.03	38.41	0.80	0.29	36.31
FIELDPEAS	**	**	**	**	**	**
HARICOTBEANS	-	-	-	-	-	-
CHICKPEAS	0.56	0.13	23.60	6.79	1.57	23.16
LENTILS	0.09	0.03	30.61	0.35	0.13	36.29
VECTH	0.46	0.09	20.41	6.45	1.26	19.59
OTHERS	0.05	0.01	24.26	0.38	0.10	25.58
NEUG	-	-	-	-	-	-
LINSEED	**	**	**	0.07	0.03	47.59
RAPESEED	-	-	-	-	-	-
GROUNDNUTS	-	-	-	-	-	-
SUNFLOWER	-	-	-	-	-	-
SEASAME	-	-	-	-	-	-
FENUGREEK	0.04	0.01	31.74	0.30	0.10	32.22
ALL CROPS	6.41	0.85	13.27	82.62	10.80	1307.00

STANDARD ERROR AND COEFFICIENT OF VARIATION FOR FORECAST OF  
AREA AND PRODUCTION, OF MAJOR CROPS, 1998/99 (1991 E.C.)

DIRE DAWA

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
CEREALS	5.90	0.64	10.76	62.52	7.54	12.05
TEFF	-	-	-	**	**	**
BARELY	-	-	-	**	**	**
WHEAT	-	-	-	**	**	**
MAIZE	0.21	0.06	31.56	1.52	0.55	36.37
SORGHUM	5.70	0.64	11.17	60.98	7.61	12.48
MILLET	-	-	-	-	-	-
OATS	-	-	-	-	-	-
PULSES	0.23	0.07	30.92	0.73	0.30	41.38
HORSEBEANS	-	-	-	-	-	-
FIELDPEAS	-	-	-	-	-	-
HARICOTBEANS	0.23	0.07	30.92	0.73	0.30	41.38
CHICKPEAS	-	-	-	-	-	-
LENTILS	-	-	-	-	-	-
VECTH	-	-	-	-	-	-
OTHERS	0.02	0.01	47.87	**	**	86.44
NEUG	-	-	-	-	-	-
LINSEED	-	-	-	**	**	**
RAPESEED	-	-	-	-	-	-
GROUNDNUTS	**	**	**	-	-	-
SUNFLOWER	-	-	-	-	-	-
SEASAME	-	-	-	-	-	**
FENUGREEK	-	-	-	-	-	-
ALL CROPS	6.15	0.64	10.49	63.27	7.69	12.15

Abbreviations

S.E. = Standard Error

C.V. = Coefficient of Variation

- = Insignificant or not available

## **APPENDIX III**

# **NUMBER OF FIELDS MEASURED UNDER MAJOR CROPS**

**APPENDIX III. THE 1991 E.C. (1998/99) CROP PRODUCTION FORECAST SURVEY NUMBER OF EAs AND AGRICULTURAL HOUSEHOLDS SAMPLED AND ACTUALLY COVERED**

Region	Stratum Zone/Sp.Wereda	EAs		Households (area measurement)		Total No. of field measured	
		Sampled	Covered	Sampled	Responded	Parcels	Fields
Tigray	Mirabawi	25	24	250	239	691	1,414
	Mekakelegnaw	25	25	250	250	1,068	2,200
	Debubawi	25	25	250	250	1,108	1,584
	Misrakawi	25	25	250	244	1,276	2,722
Afar	Zone 1	20	19	200	189	341	499
	Zone 3	20	17	200	170	331	597
	Zone 5	20	17	200	15	27	58
Amhara	North Gondar	30	30	300	300	1,216	2,231
	South Gondar	30	29	300	290	1,358	2,305
	West Gojam	30	30	300	300	1,357	2,450
	Agew Awi	25	25	250	250	921	1,955
	East Gojam	30	30	300	300	1,339	2,392
	North Wollo	30	30	300	300	1,204	2,234
	South Wollo	30	30	300	300	1,469	2,573
	Wag Himra	25	25	250	250	990	1,848
	Oromia	25	25	250	250	737	1,436
	North Shoa	30	28	300	280	1,364	2,528

(Contd.)

Region	Stratum Zone/Sp.Wereda	EAs		Households (area measurement)		Total No. of field measured	
		Sampled	Covered	Sampled	Responded	Parcels	Fields
Oromia	West Wellega	30	30	300	300	1,371	3,124
	East Wellega	30	30	300	300	1,095	2,741
	Illubabor	30	30	300	300	825	1,989
	Jima	30	30	300	300	979	2,578
	North Shoa	30	30	300	300	1,686	2,753
	West Shoa	30	30	300	300	1,141	2,631
	East Shoa	30	29	300	290	905	1,997
	Arsi	30	30	300	300	1,303	2,799
	Bale	30	30	300	270	881	2,220
	Borena	30	30	300	297	493	1,101
	West Hararge	30	30	300	300	883	2,045
	East Hararge	30	30	300	300	967	1,810
Somalie	Jijiga	20	20	200	200	495	968
	Shinile	20	18	200	180	289	443
	Liben (Moyale)	20	20	200	197	373	573
Benshangul Gumuz	Asosa	25	25	250	250	1,219	2,144
	Kemashi	25	25	250	250	642	1,324
	Metekel	25	24	250	250	786	1,496

(Contd.)

Region	Stratum Zone/Sp.Wereda	EAs		Households (area measurement)		Total No. of field measured	
		Sampled	Covered	Sampled	Responded	Parcels	Fields
S.N.N.P.R.	Sidama	30	30	300	300	466	1,758
	Hadiya	30	28	300	280	558	2,687
	Kembata Alaba Timbaro	30	30	300	300	561	2,594
	Gurage	30	29	300	290	695	2,468
	Gedo	30	30	300	300	607	1,268
	North Omo	30	30	300	300	548	2,474
	South Omo	30	30	300	299	693	1,521
	Bench Maji	30	30	300	300	583	1,952
	Kefa Sheka	30	30	300	300	583	1,581
	Konso	25	25	250	250	682	1,133
	Derashe	25	25	250	250	603	1,071
	Burji	25	24	250	240	543	1,333
	Amaro	25	25	250	250	478	1,187
	Yem	25	25	250	250	738	2,124
Gambela	Gambela	30	24	300	240	493	892
Harari	Harari	30	30	300	299	996	1,658
Addis Ababa	Addis Ababa	25	25	250	250	898	1,642
Dire Dawa	Dire Dawa	30	30	300	300	773	1,235
	Total	1,450	1,422	14,500	14,049	44,628	96,340

