

FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA  
CENTRAL STATISTICAL AUTHORITY

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

**REPORT ON**

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

**(FOR PRIVATE PEASANT HOLDINGS)**

*ADDIS ABABA  
DECEMBER, 1995*

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## Crop Production Forecast 1995/96 (1988 E.C.)

### I. INTRODUCTION

Like many other developing countries, in Ethiopia agriculture is the backbone of the country's economy. It is also the main source of food for household consumption. Moreover, the majority of the rural population's income is mainly generated from agriculture. Thus, timely crop production forecast prior to harvest is of a great importance to the government and non-government organizations in order to plan and take all necessary measures such as administering exports at the time of surplus or imports at the time of food deficit, management of stocks and distributing of food to different regions at the time of deficits, regulation of prices both at the time of surplus and deficits,...etc.

From scientific point of view, a forecast of crop production can be defined as a statement of the most probable production of the crop which will be obtained from the coming harvest.

The Central Statistical Authority has been conducting crop production forecast survey annually, since 1980/81 (1973 E.C.), except for the last three consecutive years i.e. 1992/93 - 1994/95 (1985 - 1987 E.C.). This was due to the huge task of the preparatory and the actual enumeration work of the 1994 National Population and Housing Census. However, this year the Central Statistical Authority resumed and launched the crop production forecast survey in all regions of the country.

This report presents basic information of crop production forecast for 1995/96 (1988 E.C.) i.e. for meher season harvest. The report shows area under major crops and expected production of major crops for the coming harvest at country, regional and group of zones which are taken as reporting levels.

## II. OBJECTIVE OF THE SURVEY

The objective of the crop production forecast survey is to collect basic quantitative information on area and expected production of major crops. The quantitative information that show the expected production of 1995/96 (1988 E.C.) meher season prior to harvest is considered to be essential for policy makers and administrators to prepare policies and take timely measures such as administering exports at the time of surplus or imports at the time of deficits, management of stocks and distributing of food to different regions at the time of deficits, regulation of prices both at the time of surplus and deficits,...etc.

## III. COVERAGE OF THE SURVEY

The 1995/96 (1988 E.C.) annual crop production forecast was designed to cover **sedentary rural** agricultural population in all regions of the country. A total of 54 zones and 367 weredas were covered in the survey. The areal coverage of the survey is given in Table A. Since a number of regions have reorganized their weredas by either joining two or more adjacent weredas or by splitting some

woredas into two, the number of weredas has been reduced significantly at the time of the crop production forecast survey.

A total of 620 enumeration areas were selected to be covered in the survey in all regions. An Enumeration Area in rural parts of the country is a locality that is less than or equal to a farmer's association area and usually it consists of 150 - 200 households. However, during the data collection stage the survey succeeded to cover only 608 enumeration areas(EAs). In each EA a sample of 25 agricultural households, were selected resulting a total of 15,200 households.

**TABLE A. AREAL COVERAGE OF THE 1995/96 CROP PRODUCTION  
FORECAST SURVEY <sup>1</sup>**

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>2</sup>	5	4	35	34
AFAR <sup>3</sup>	5	2	6	4
AMHARA	10	10	96	95
OROMIA	12	12	148	144
SOMALIE <sup>4</sup>	9	3	6	5
BENSHANGUL GUMEZ	3	2	6	5
S.N.N.P.R	16	16	72	69
GAMBELA	1	1	5	4
HARARI	1	1	1	1
A. ABABA <sup>5</sup>	6	2	5	5
DIRE DAWA	1	1	1	1
<b>TOTAL</b>	<b>69</b>	<b>54</b>	<b>381</b>	<b>367</b>

**Notes**

- 1 - At the time of the design of the survey all the regions had the indicated number of zones.
- 2 - In Tigray Region, four out of five zones have rural settled population. In the remaining one zone the entire population is urban residents.
- 3 - Afar Region has a total of five zones, however only two zones have significant rural sedentary population.
- 4 - Somalie Region has a total of nine zones, however only three zones have significant rural sedentary population.
- 5 - 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

#### IV SAMPLE DESIGN

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

A fixed number of sample EAs was determined for each stratum /reporting level based on population size of the stratum and cost considerations. The overall sample number of EAs in a stratum was proportionately allocated to zones/special weredas within the stratum to their population size. From within each stratum sample EAs were selected with probability proportional to size, size being the total number of households of the EAs as obtained from the 1994 census map work. From each sample EA, 25 agricultural households were selected systematically without replacement. The crop forecast survey questionnaires were administered to the first 10 sample agricultural households for area measurements and to all the 25 households for data on condition factors,...etc.

A total of 620 EAs (1.1% of the total number of agricultural EAs) in the country were planned to be covered by the survey. But

12 of the sampled EAs were closed due to various reasons and the survey covered 608 EAs successfully. Distribution of EAs sampled and actually covered by stratum/reporting level is given in Appendix I.

Estimation procedures of totals and ratios of agricultural characteristics and measure of their precision are given in Appendix II and III.

#### V. FIELD ORGANIZATION.

The branch statistical office heads of the Central Statistical Authority, field supervisors and enumerators were fully involved in the survey. Hence, 15 statistical branch office heads, about 132 field supervisors, each supervising 5 enumerators in most cases and about 650 (including the reserves) enumerators stationed in each of the selected EAs, experts from head office, other support staff and about 62 drivers were involved in the operation.

For all enumerators, the necessary survey equipment such as compass, protractor, ruler, measuring tapes, balance scale, poles, ropes, sample bags, ...etc. were made available to facilitate the field work. Moreover, about 62 vehicles were put on operation to carry out the survey.

## VI. TRAINING OF FIELD STAFF

At the outset all relevant materials, like equipment were procured and questionnaires and instruction manuals were prepared. Then the training program for the field staff was carried out in two stages. In the first stage, about 90 trainees, i.e. experts from the head office, branch statistical office heads and some of the field supervisors were given training for one week at the head office. Those trained in the first stage conducted similar training for about 132 field supervisors and about 650 enumerators in all the 14 branch offices all over the country. During the training, the field staff were given detailed class room instruction on the purpose of the survey, concepts and definitions of terms used, method of area measurement, method of crop cutting, interviewing procedures,... etc. The training sessions included thorough field practices with regard to data collection.

## VII. METHOD OF DATA COLLECTION AND CROP PRODUCTION FORECASTING

### i. Method of data collection

Information in the crop production forecast survey, were collected both by subjective and objective methods. Information on agricultural practices (such as use of fertilizer, use of pesticides, use of improved seed and use of irrigation) were collected subjectively by interviewing the holders of the first 10 selected households. Information on area under crops was collected objectively by measuring all cropped fields under temporary and

permanent crops using compasses and measuring tapes. However, in this report only area under major crops are presented (See Appendix IV for the total number of fields measured). Moreover information on condition factors i.e., percentage change on the expected increase or decrease of yield for the coming harvest, as compared to last year's was collected. These information was collected subjectively for each temporary crop by interviewing the holders in each enumeration area.

ii. Method of crop production forecasting

The crop production forecast for 1995/96 (1988 E.C.) is based on three major factors, the actual area under crops after sowing (measured objectively in September 1995), last year's crop yield obtained from crop cutting survey and the so-called condition factors which compare the yield of this year with that of last year. All specific conditions (such as weather, pest damage...etc) affecting the growing of crops during the current season have been taken into account by the holders in these condition factors. The calculation of the forecast has been performed for all major temporary crops for which objective area measurements were conducted.

To correct the last year's yield by the condition factors the following were taken into account during the interview.

- a. Reason for expected decrease
- too much rain fall
  - shortage of rain fall
  - insect and pest damage
  - hail and frost damage
  - wild animal and locust damage
  - shortage of seed
  - depletion of the soil
  - others

- b. Reason for expected increase
- good weather condition
  - improved seed
  - application of fertilizers
  - application of insecticides
  - others

**VIII. Summary of the Results of 1995/96 (1988 E.C.) Crop Production  
Forecast Survey**

In this report the results of 1995/96 (1988 E.C.) crop production forecast survey at country, regional and group of zones taken as reporting level are presented. Discussions on some of the major important points of the survey findings are presented below.

According to 1995/96 (1988 E.C.) crop production forecast survey results, about **8.03 million hectares** are covered by **major crops**, from which in the coming harvest about **84.45 million**

quintals are expected to be produced with mean yield of 10.52 qt/ha.

Out of these total, the highest area, which is about 6.79 million hectares (84.56%), and with expected production of 75.47 million quintals (89.37 %), with mean yield of 11.12 qt/ha, is reported for cereals, followed by pulses, with 0.88 million hectares (10.96 %) and 7.78 million quintals (9.22%) with mean yield of 8.88 qt/ha, and then by other crops (mainly oilseeds) with 0.36 million hectares (4.48 %) and 1.19 million quintals (1.41 %), with mean yield of 3.27 qt/ha. See Table B.

**Table B. Forecast of area and expected production of major crops for private peasant holdings in Ethiopia, 1995/96 (1988 E.C.)**

Crop type	Area		Production		Yield Qt/ha
	In million ha.	%	In million qt.	%	
Cereals	6.79	84.56	75.47	89.37	11.12
Pulses	0.88	10.96	7.78	9.21	8.88
Others	0.36	4.48	1.19	1.41	3.27
All Crops	8.03	100.00	84.45	100.00	10.52

In most of the regions, the total crop area and the expected production are increased. The increase ranges from 2 % to over 17% for area and from 13% to over 30% for production of crops.

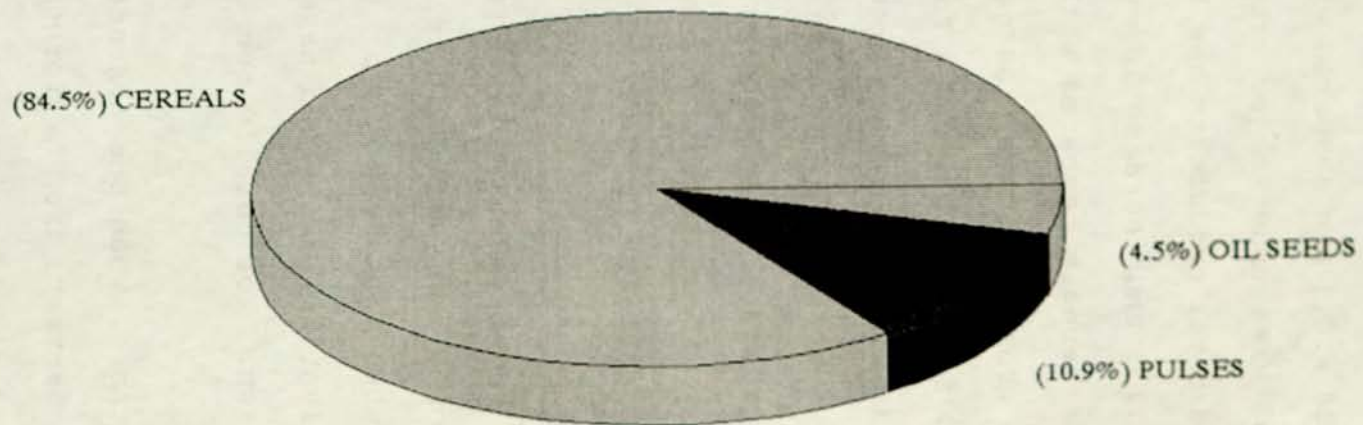
Exceptions are Harari where area has shown a decline and Dire DAWA with decline of both area and production. For details see Table 1.

The total area and expected production of major crops of 1995/96 (1988 E.C.) are compared with last year's estimate in Table 2. The total area under major crops has increased by 15.34 % and the expected total production has increased by 19.93 %. Increase in area by 18.11 % and increase in expected production by 22.64 % is reported for cereals compared with the estimate of 1994/95 (1987 E.C.). The above mentioned increase in area under cereals ranges from 15.62 % for teff to 48.68 % for sorghum, while the increase in the expected production ranges from 9.21 % for wheat to 60.62 % for sorghum. However, for barley both area and production has shown a decline. Increases in area and production were also reported for other crops mainly oil seeds. Nevertheless, fenugreek, and rapeseed have shown a decrease in their area and linseed in production.

Slight reduction in area of pulses is observed, although, the expected production shows increase of 0.50 % (38.94 thousand quintals) when compared with 1994/95 (1987 E.C.) estimate. Chickpeas, lentils, and vetch have shown a decrease in their area and production. For details see Table 2.

Furthermore, when one assesses the yield of major crops for the coming harvest, it is forecasted that 10.52 qt/ha is the average yield of all major crops at national level. The highest yield i.e. 11.12 qt/ha is reported for cereals. Average yield for the cereals ranges from 14.48 qt/ha for maize to 7.66 qt/ha for

FIG 1. FORECAST OF AREA UNDER MAJOR CROPS FOR PRIVATE PEASANT HOLDINGS: ETHIOPIA 1995/96(1988 E.C)



millet. The lowest yield i.e. 3.27 qt/ha was reported for other crops mainly oil seed and it ranges from 2.86 qt/ha for neug to 8.79 qt/ha for rapeseed (see table 3).

Attempt has also been made to compare the 1995/96 (1988 E.C.) meher season forecasted yield of major crops with that of 1994/95 (1987 E.C.) estimate and these are shown in Table 3. In the forthcoming harvest the overall yield of major crops is expected to increase by 3.98 % from that of last year. The change in the yield of major crops ranges from - 32.75 % for linseed to 32.69 % for haricot beans. The overall increase in the forecasted yield is 3.84 % for cereals.

Finally, users of this report should know that the information on what is called condition factors was collected in the months of September 1995 (Meskerem 1988 E.C.). Therefore, the results should be used with great caution in light of the favorable or adverse condition of weather and other factors which may affect the crop after the crop production survey has been conducted. The effect of these are not examined in this report.

FIG 2. FORECAST OF EXPECTED PRODUCTION OF MAJOR CROPS  
FOR PRIVATE PEASANT HOLDINGS: ETHIOPIA  
1995/96(1988 E.C)

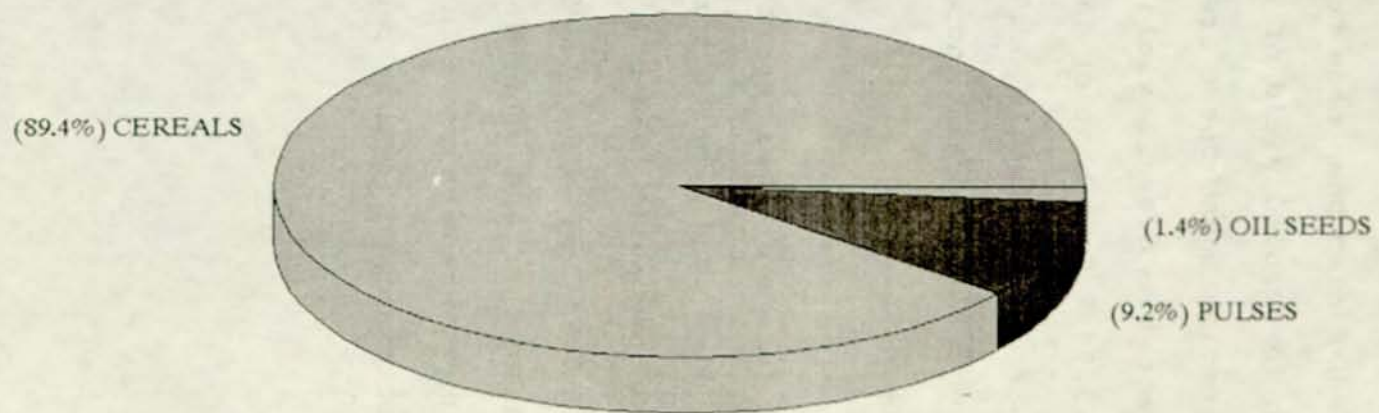


Table 1. Forecast of 1995/96 and Estimates of 1994/95 Area and Production of major crops for private peasant holdings in ETHIOPIA by REGION (meher season)

Region	Total Area (000' ha)			Total Production (000' qt)		
	Estimate 1994/95	Forecast 1995/96	% Change	Estimate 1994/95	Forecast 1995/96	% Change
Tigray	506.04	517.50	2.26	3035.33	3965.76	30.65
Afar	16.55	30.54	**	146.55	222.51	**
Amhara	2608.32	2893.70	10.94	23846.13	27450.64	15.12
Oromia	3138.26	3681.31	17.30	35436.51	42479.14	19.87
Somale	—	68.74	—	—	813.80	—
Benshangul— / Gumez /	60.42	94.51	**	641.32	996.61	**
S.N.N.P.R	599.23	704.71	17.60	6919.30	8101.57	17.09
Gambela	6.24	12.50	**	78.76	160.02	**
Harari	5.29	4.33	-18.15	60.83	78.11	28.41
Addis Ababa	10.31	11.47	11.25	119.23	135.66	13.78
Dire Dawa	9.52	8.37	-12.08	134.03	47.08	-64.87
<b>TOTAL</b>	<b>6960.18</b>	<b>8027.67</b>	<b>15.34</b>	<b>70417.99</b>	<b>84450.93</b>	<b>19.93</b>

\*\* The percentage change figures for the three regions are not shown in the table. This is due to the fact that the 1994/95 estimates of these regions were based on very small sample specially on number of fields measured when compared to those of this year forecast. However, for the general indication purpose the area and production figures are presented in the table.

Table 2. Forecast of 1995/96 and Estimates of 1994/95 Area and Production of major crops for private peasant holdings in ETHIOPIA (MEHER SEASON)

Crop	Total Area (000' ha)			Total Production (000' qt)		
	Estimate 1994/95	Forecast 1995/96	% Change	Estimate 1994/95	Forecast 1995/96	% Change
Cereals	5746.01	6786.38	18.11	61542.00	75473.21	22.64
Teff	1843.76	2131.78	15.62	12983.89	17131.11	31.94
barley	879.17	774.80	-11.87	8476.85	6953.51	-17.97
Wheat	769.34	890.80	15.79	10239.14	11181.79	9.21
Maize	1104.70	1351.53	22.34	16732.02	19567.31	16.95
Sorghum	886.01	1317.35	48.68	11219.13	18020.41	60.62
Millet	228.53	272.90	19.42	1530.51	2089.31	36.51
Oats	34.50	47.22	36.87	360.46	529.76	46.97
Pulses	878.48	876.69	-0.20	7723.46	7783.83	0.50
Horse Beans	341.91	351.54	2.82	3736.46	4027.95	7.80
Field Peas	154.97	184.95	19.35	1432.93	1602.04	11.80
Haricot Beans	68.75	99.34	44.49	338.66	649.30	91.73
Chick Peas	175.05	127.67	-27.07	1224.96	905.86	-26.05
Lentils	58.01	52.86	-8.88	367.55	261.81	-28.77
Vetch	79.79	60.32	-24.40	622.90	336.86	-45.92
Others	335.69	364.60	8.61	1152.53	1193.89	3.59
Neug	197.12	224.11	13.69	443.01	639.95	44.45
linseed	110.92	114.89	3.58	535.52	373.00	-30.35
Fenugreek	12.81	12.74	-0.55	61.91	67.92	9.71
Rape Seed	14.83	12.86	-13.28	112.09	113.03	0.84
All crops	6960.18	8027.67	15.34	70417.99	84450.93	19.93

\*Correction Horse beans and Haricot beans production estimates of 1994/95 were erroneously printed as 3737.9 and 363.63 the correct figures are as printed on this report.

Table 3. Forecast of 1995/96 and Estimates of 1994/95 of Yield of major crops for private peasant holdings in ETHIOPIA (meher season)

Crop	Estimate Yield 1994/95	Forecast Yield 1995/96	% Change
Cereals	10.71	11.12	3.84
Teff	7.04	8.04	14.11
barley	9.64	8.97	-6.92
Wheat	13.31	12.55	-5.68
Maize	15.15	14.48	-4.41
Sorghum	12.66	13.68	8.03
Millet	6.70	7.66	14.32
Oats	10.45	11.22	7.38
Pulses	8.79	8.88	0.99
Horse Beans	10.93	11.46	4.85
Field Peas	9.25	8.66	-6.32
Haricot Beans	4.93	6.54	32.69
Chick Peas	7.00	7.10	1.39
Lentils	6.34	4.95	-21.83
Vetch	7.81	5.58	-28.47
Others	3.43	3.27	-4.63
Neug	2.25	2.86	27.06
linseed	4.83	3.25	-32.75
Fenugreek	4.83	5.33	10.31
Rape Seed	7.56	8.79	16.29
Allcrops	10.12	10.52	3.98

FIG 3. FORECAST OF TOTAL AREA AND PRODUCTION OF MAJOR CROPS  
BY REGION FOR PRIVATE PEASANT HOLDINGS, ETHIOPIA  
1995/96(1988 E.C)

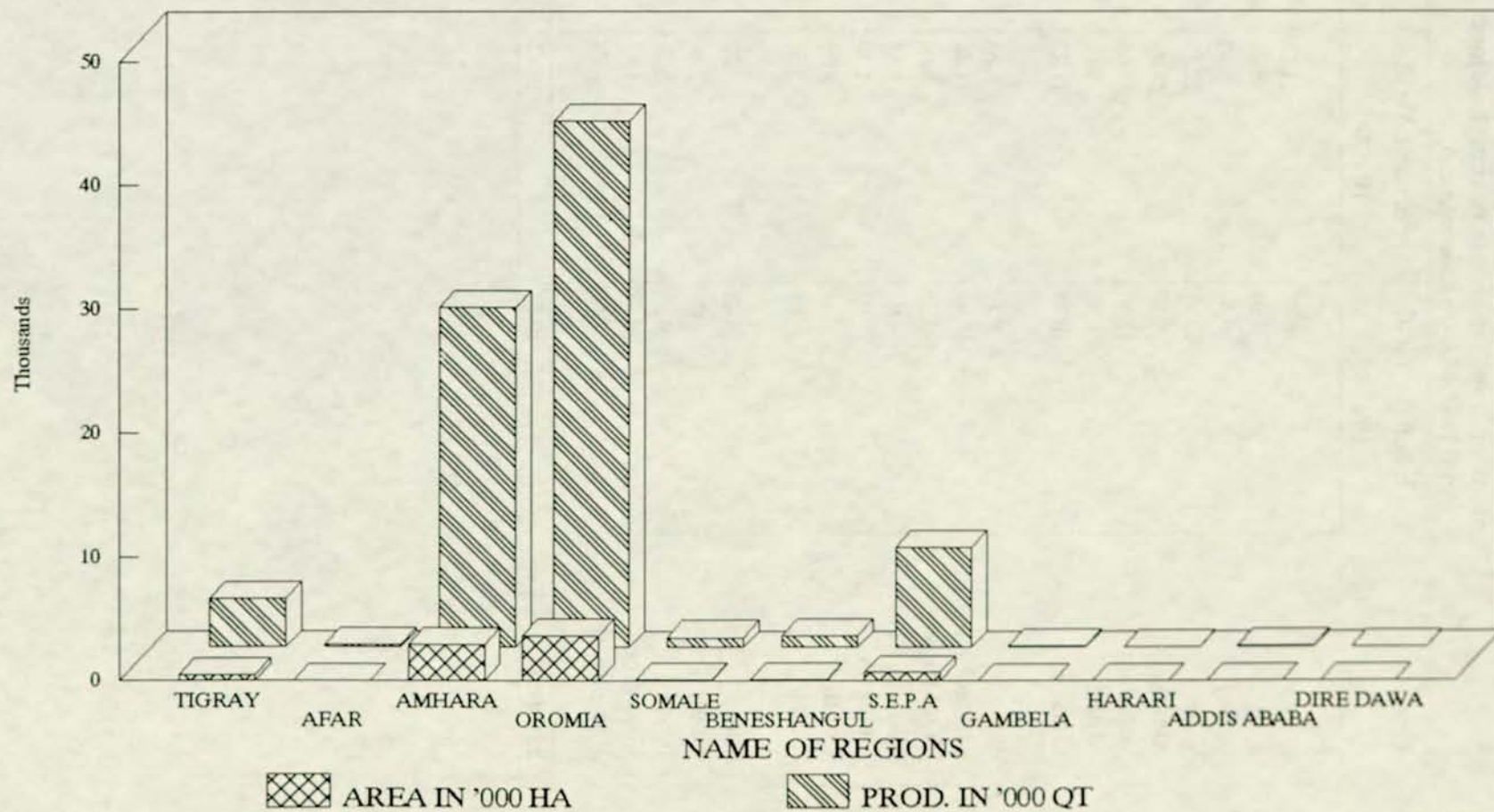


Table 4. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

Ethiopia

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	6,786.38	84.54	75,473.21	89.37	11.12
Teff	2,131.78	26.56	17,131.11	20.29	8.04
Barley	774.80	9.65	6,953.51	8.23	8.97
Wheat	890.80	11.10	11,181.79	13.24	12.55
Maize	1,351.53	16.84	19,567.31	23.17	14.48
Sorghum	1,317.35	16.41	18,020.41	21.34	13.68
Millet	272.90	3.40	2,089.31	2.47	7.66
Oats	47.22	0.59	529.76	0.63	11.22
Pulses	876.69	10.92	7,783.83	9.22	8.88
Horse Beans	351.54	4.38	4,027.95	4.77	11.46
Field Peas	184.95	2.30	1,602.04	1.90	8.66
Haricot Beans	99.34	1.24	649.30	0.77	6.54
Chick Peas	127.67	1.59	905.86	1.07	7.10
Lentils	52.86	0.66	261.81	0.31	4.95
Vetch	60.32	0.75	336.86	0.40	5.58
Others	364.60	4.54	1,193.89	1.41	3.27
Neug	224.11	2.79	639.95	0.76	2.86
Linseed	114.89	1.43	373.00	0.44	3.25
Fenugreek	12.74	0.16	67.92	0.08	5.33
Rapeseed	12.86	0.16	113.03	0.13	8.79
All Crops	8,027.67	100.00	84,450.93	100.00	10.52

FIG 4. FORECAST OF YIELD FOR CEREALS, PULSES, OTHERS AND ALL CROPS FOR PRIVATE HOLDINGS IN ETHIOPIA, BY REGION (meher season) 1995/96(1988 E.C)

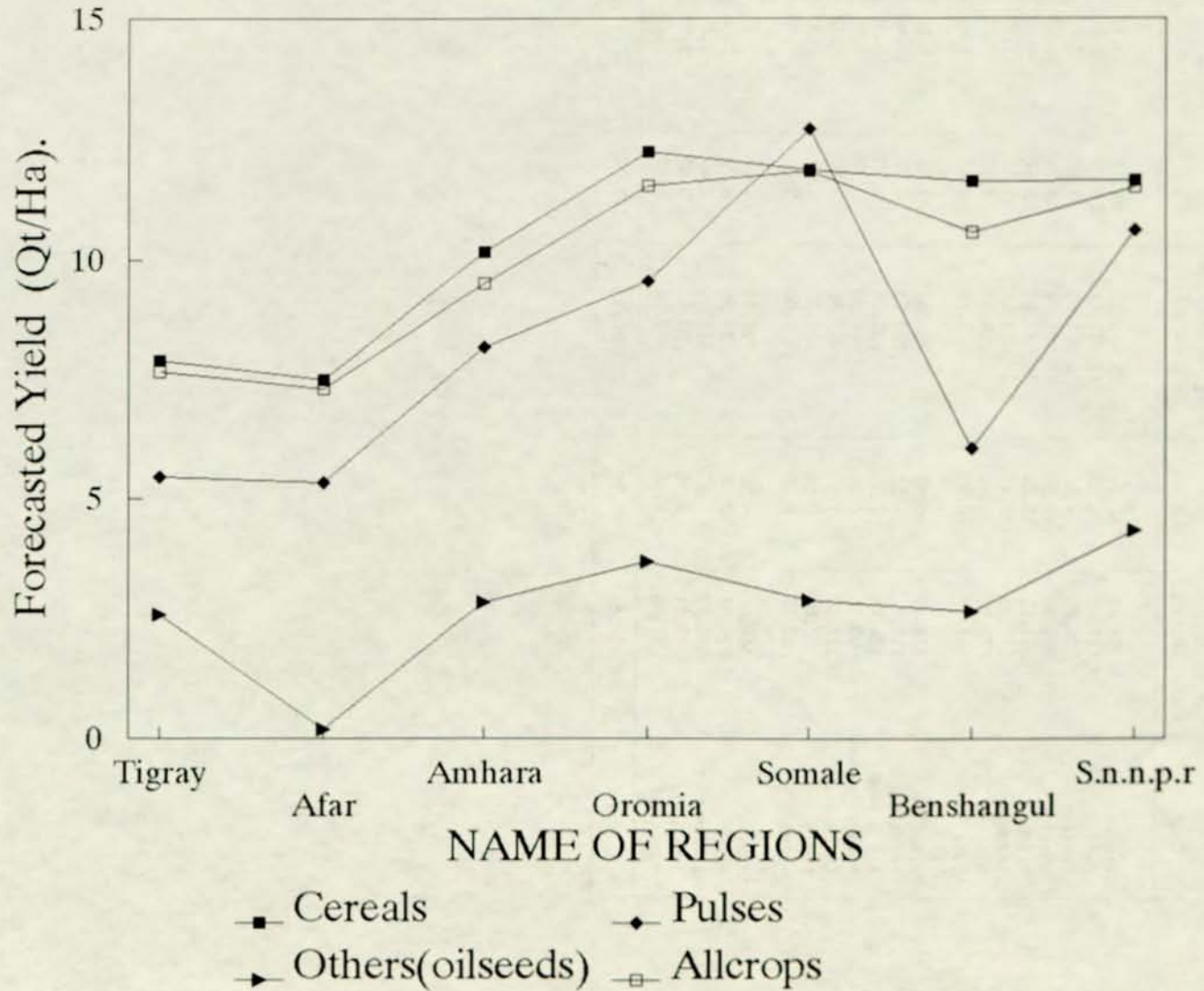


Table 5. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

Tigray

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	475.80	91.94	3,753.16	94.64	7.89
Teff	89.67	17.33	729.90	18.41	8.14
Barley	93.42	18.05	345.36	8.71	3.70
Wheat	98.77	19.09	508.10	12.81	5.14
Maize	51.04	9.86	294.06	7.41	5.76
Sorghum	108.34	20.94	1,631.95	41.15	15.06
Millet	34.56	6.68	243.79	6.15	7.05
Oats	-	-	-	-	-
Pulses	36.68	7.09	199.63	5.03	5.44
Horse Beans	13.28	2.57	112.81	2.84	8.49
Field Peas	3.88	0.75	21.29	0.54	5.49
Haricot Beans	-	-	-	-	-
Chick Peas	7.04	1.36	44.90	1.13	6.38
Lentils	6.38	1.23	14.78	0.37	2.32
Vetch	6.10	1.18	5.85	0.15	0.96
Others	5.02	0.97	12.97	0.33	2.58
Neug	0.72	0.14	3.21	0.08	4.46
Linseed	4.11	0.79	8.89	0.22	2.16
Fenugreek	0.19	0.04	0.86	0.02	4.53
Rapeseed	-	-	-	-	-
All Crops	517.50	100.00	3,965.76	100.00	7.66

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

Afar

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	27.78	90.96	208.07	93.51	7.49
Teff	7.94	26.00	60.19	27.05	7.58
Barley	-	-	-	-	-
Wheat	0.06	0.20	0.79	0.36	13.17
Maize	5.53	18.11	57.36	25.78	10.37
Sorghum	14.25	46.66	89.73	40.33	6.30
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	2.71	8.87	14.43	6.49	5.32
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	0.51	1.67	5.08	2.28	9.96
Chick Peas	2.20	7.20	9.35	4.20	4.25
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	0.05	0.16	0.01	-	0.20
Neug	0.05	0.16	0.01	-	0.20
Linseed	-	-	-	-	-
Fenugreek	-	-	-	-	-
Rapeseed	-	-	-	-	-
All Crops	30.54	100.00	222.51	100.00	7.29

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

Amhara

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	2,356.80	81.45	23,912.48	87.11	10.15
Teff	892.63	30.85	6,756.83	24.61	7.57
Barley	271.83	9.39	2,185.67	7.96	8.04
Wheat	234.77	8.11	2,879.43	10.49	12.26
Maize	298.05	10.30	3,947.27	14.38	13.24
Sorghum	471.11	16.28	6,612.26	24.09	14.04
Millet	180.58	6.24	1,477.83	5.38	8.18
Oats	7.83	0.27	53.21	0.19	6.80
Pulses	377.70	13.05	3,085.00	11.24	8.17
Horse Beans	135.24	4.67	1,454.51	5.30	10.76
Field Peas	86.12	2.98	722.43	2.63	8.39
Haricot Beans	27.52	0.95	91.55	0.33	3.33
Chick Peas	74.11	2.56	542.22	1.98	7.32
Lentils	22.47	0.78	111.33	0.41	4.95
Vetch	32.24	1.11	162.96	0.59	5.05
Others	159.21	5.50	453.15	1.65	2.85
Neug	110.75	3.83	304.84	1.11	2.75
Linseed	39.41	1.36	99.24	0.36	2.52
Fenugreek	4.58	0.16	15.20	0.06	3.32
Rapeseed	4.46	0.15	33.87	0.12	7.59
All Crops	2,893.70	100.00	27,450.64	100.00	9.49

Table 7.1 Forecast of Area, Production and Yield of Major Crops in Amhara region by group of zones 1995/96 (1988 E.C.)

GROUP OF ZONES	TOTAL AREA (000' hectare)	TOTAL PRODUCTION (000' quintal)	YIELD (QT/HA)
North and South Gonder Zones	894.03	9,883.74	11.06
East, West Gojam and Agewawi Zones	1,028.05	8,155.11	7.93
North Wolo and Waghmra Zones	261.76	1,462.41	5.59
South Wolo, Oromia and North Shewa Zones	709.86	7,949.37	11.20
Total	2,893.70	27,450.64	9.49

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

North and South Gonder Zones

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	727.82	81.41	8,654.18	87.56	11.89
Teff	257.35	28.79	2,424.32	24.53	9.42
Barley	70.78	7.92	784.82	7.94	11.09
Wheat	38.08	4.26	632.36	6.40	16.61
Maize	73.38	8.21	928.99	9.40	12.66
Sorghum	211.52	23.66	3,236.83	32.75	15.30
Millet	76.72	8.58	646.86	6.54	8.43
Oats	-	-	-	-	-
Pulses	103.61	11.59	1,023.87	10.36	9.88
Horse Beans	37.64	4.21	492.82	4.99	13.09
Field Peas	28.13	3.15	265.12	2.68	9.42
Haricot Beans	10.09	1.13	16.81	0.17	1.67
Chick Peas	21.14	2.36	207.18	2.10	9.80
Lentils	3.73	0.42	26.03	0.26	6.98
Vetch	2.87	0.32	15.91	0.16	5.54
Others	62.61	7.00	205.69	2.08	3.29
Neug	52.51	5.87	156.60	1.58	2.98
Linseed	8.87	0.99	43.83	0.44	4.94
Fenugreek	1.20	0.13	5.01	0.05	4.18
Rapeseed	0.03	-	0.25	-	8.33
All Crops	894.03	100.00	9,883.74	100.00	11.06

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

East, West Gojam and Agewawi Zones

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	848.52	82.54	7,268.34	89.13	8.57
Teff	390.35	37.97	2,909.17	35.67	7.45
Barley	70.50	6.86	371.44	4.55	5.27
Wheat	68.68	6.68	524.62	6.43	7.64
Maize	171.74	16.71	2,242.43	27.50	13.06
Sorghum	44.51	4.33	385.45	4.73	8.66
Millet	101.14	9.84	817.80	10.03	8.09
Oats	1.61	0.16	17.43	0.21	10.83
Pulses	105.04	10.22	676.60	8.30	6.44
Horse Beans	33.33	3.24	271.73	3.33	8.15
Field Peas	22.80	2.22	251.77	3.09	11.04
Haricot Beans	15.51	1.51	64.60	0.79	4.17
Chick Peas	16.53	1.61	47.14	0.58	2.85
Lentils	0.39	0.04	2.73	0.03	7.00
Vetch	16.49	1.60	38.62	0.47	2.34
Others	74.49	7.25	210.17	2.58	2.82
Neug	53.81	5.23	140.36	1.72	2.61
Linseed	15.79	1.54	35.24	0.43	2.23
Fenugreek	0.45	0.04	0.95	0.01	2.11
Rapeseed	4.43	0.43	33.62	0.41	7.59
All Crops	1,028.05	100.00	8,155.11	100.00	7.93

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

North Wolo and Waghamra Zones

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	210.83	80.54	1,264.09	86.44	6.00
Teff	72.48	27.69	238.27	16.29	3.29
Barley	48.82	18.65	271.60	18.57	5.56
Wheat	35.84	13.69	246.39	16.85	6.87
Maize	4.05	1.55	33.95	2.32	8.38
Sorghum	47.77	18.25	461.70	31.57	9.67
Millet	0.28	0.11	-	-	-
Oats	1.58	0.60	12.17	0.83	7.70
Pulses	44.19	16.88	194.71	13.31	4.41
Horse Beans	13.80	5.27	109.06	7.46	7.90
Field Peas	14.21	5.43	36.73	2.51	2.58
Haricot Beans	0.31	0.12	0.92	0.06	2.97
Chick Peas	8.30	3.17	36.21	2.48	4.36
Lentils	5.29	2.02	8.88	0.61	1.68
Vetch	2.27	0.87	2.91	0.20	1.28
Others	6.74	2.57	3.61	0.25	0.54
Neug	0.38	0.15	0.09	0.01	0.24
Linseed	5.38	2.06	1.90	0.13	0.35
Fenugreek	0.99	0.38	1.62	0.11	1.64
Rapeseed	-	-	-	-	-
All Crops	261.76	100.00	1,462.41	100.00	5.59

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

South Wolo, Oromia and North Shewa Zones

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	569.63	80.25	6,725.87	84.61	11.81
Teff	172.45	24.29	1,185.07	14.91	6.87
Barley	81.73	11.51	757.81	9.53	9.27
Wheat	92.17	12.98	1,476.05	18.57	16.01
Maize	48.88	6.89	741.90	9.33	15.18
Sorghum	167.31	23.57	2,528.27	31.80	15.11
Millet	2.43	0.34	13.17	0.17	5.42
Oats	4.65	0.66	23.60	0.30	5.08
Pulses	124.86	17.59	1,189.82	14.97	9.53
Horse Beans	50.47	7.11	580.90	7.31	11.51
Field Peas	20.97	2.95	168.82	2.12	8.05
Haricot Beans	1.61	0.23	9.21	0.12	5.72
Chick Peas	28.14	3.96	251.69	3.17	8.94
Lentils	13.05	1.84	73.69	0.93	5.65
Vetch	10.61	1.49	105.51	1.33	9.94
Others	15.36	2.16	33.68	0.42	2.19
Neug	4.06	0.57	7.78	0.10	1.92
Linseed	9.37	1.32	18.28	0.23	1.95
Fenugreek	1.93	0.27	7.62	0.10	3.95
Rapeseed	-	-	-	-	-
All Crops	709.86	100.00	7,949.37	100.00	11.20

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

Oromia

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	3,132.60	85.09	38,353.52	90.29	12.24
Teff	957.77	26.02	8,116.14	19.11	8.47
Barley	354.60	9.63	3,853.91	9.07	10.87
Wheat	484.78	13.17	6,676.95	15.72	13.77
Maize	745.33	20.25	11,422.03	26.89	15.32
Sorghum	504.72	13.71	7,548.13	17.77	14.96
Millet	46.27	1.26	261.56	0.62	5.65
Oats	39.13	1.06	474.80	1.12	12.13
Pulses	358.71	9.74	3,426.54	8.07	9.55
Horse Beans	154.87	4.21	1,853.65	4.36	11.97
Field Peas	72.42	1.97	629.11	1.48	8.69
Haricot Beans	48.14	1.31	405.23	0.95	8.42
Chick Peas	39.61	1.08	258.34	0.61	6.52
Lentils	22.54	0.61	121.88	0.29	5.41
Vetch	21.14	0.57	158.33	0.37	7.49
Others	190.00	5.16	699.09	1.65	3.68
Neug	103.36	2.81	307.74	0.72	2.98
Linseed	70.50	1.92	261.45	0.62	3.71
Fenugreek	7.74	0.21	50.74	0.12	6.56
Rapeseed	8.40	0.23	79.15	0.19	9.42
All Crops	3,681.31	100.00	42,479.14	100.00	11.54

Table 8.1 Forecast of Area, Production and Yield of Major Crops in Oromia by group of zones 1995/96 (1988 E.C.)

GROUP OF ZONES	TOTAL AREA (000' hectare)	TOTAL PRODUCTION (000' quintal)	YIELD (QT/HA)
East and West Welega Zones	625.83	6,519.93	10.42
Ilubabor and Jima Zones	511.46	6,641.67	12.99
North and West Shewa Zones	930.43	9,423.48	10.13
East Shewa, Arsi, Bale and Borena Zones	1,290.05	15,412.05	11.95
East and West Harerge Zones	323.55	4,482.01	13.85
Total	3,681.31	42,479.14	11.54

Table 8.2 Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

East and West Welega Zones

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	525.24	83.93	5,809.85	89.11	11.06
Teff	175.28	28.01	1,264.20	19.39	7.21
Barley	24.95	3.99	262.46	4.03	10.52
Wheat	27.61	4.41	390.84	5.99	14.16
Maize	185.94	29.71	2,819.26	43.24	15.16
Sorghum	71.22	11.38	857.18	13.15	12.04
Millet	39.74	6.35	208.96	3.20	5.26
Oats	0.50	0.08	6.94	0.11	13.88
Pulses	40.48	6.47	504.50	7.74	12.46
Horse Beans	23.07	3.69	364.05	5.58	15.78
Field Peas	10.37	1.66	86.80	1.33	8.37
Haricot Beans	6.60	1.05	51.65	0.79	7.83
Chick Peas	0.21	0.03	0.90	0.01	4.29
Lentils	0.16	0.03	0.50	0.01	3.13
Vetch	0.07	0.01	0.59	0.01	8.43
Others	60.10	9.60	205.58	3.15	3.42
Neug	54.91	8.77	194.14	2.98	3.54
Linseed	4.38	0.70	6.97	0.11	1.59
Fenugreek	0.16	0.03	0.93	0.01	5.81
Rapeseed	0.65	0.10	3.54	0.05	5.45
All Crops	625.83	100.00	6,519.93	100.00	10.42

Table 8.3 Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

Ilubabor and Jima Zones

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	477.96	93.45	6,333.39	95.36	13.25
Teff	157.57	30.81	900.66	13.56	5.72
Barley	18.04	3.53	244.57	3.68	13.56
Wheat	11.21	2.19	138.06	2.08	12.32
Maize	191.50	37.44	3,144.66	47.35	16.42
Sorghum	93.38	18.26	1,850.22	27.86	19.81
Millet	5.40	1.06	49.54	0.75	9.17
Oats	0.86	0.17	5.67	0.09	6.59
Pulses	27.05	5.29	291.66	4.39	10.78
Horse Beans	14.96	2.92	166.12	2.50	11.10
Field Peas	5.53	1.08	58.87	0.89	10.65
Haricot Beans	5.85	1.14	64.22	0.97	10.98
Chick Peas	0.54	0.11	1.88	0.03	3.48
Lentils	0.18	0.04	0.57	0.01	3.17
Vetch	-	-	-	-	-
Others	6.45	1.26	16.62	0.25	2.58
Neug	3.53	0.69	3.23	0.05	0.92
Linseed	2.80	0.55	13.11	0.20	4.68
Fenugreek	0.12	0.02	0.29	-	2.42
Rapeseed	-	-	-	-	-
All Crops	511.46	100.00	6,641.67	100.00	12.99

Table 8.4 Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

North and West Shewa Zones

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	738.66	79.39	8,013.92	85.04	10.85
Teff	305.22	32.80	2,655.48	28.18	8.70
Barley	145.14	15.60	926.70	9.83	6.38
Wheat	138.92	14.93	2,276.38	24.16	16.39
Maize	47.40	5.09	753.27	7.99	15.89
Sorghum	100.49	10.80	1,387.73	14.73	13.81
Millet	0.25	0.03	1.96	0.02	7.84
Oats	1.26	0.14	12.41	0.13	9.85
Pulses	126.37	13.58	1,192.94	12.66	9.44
Horse Beans	54.46	5.85	575.08	6.10	10.56
Field Peas	21.67	2.33	235.71	2.50	10.88
Haricot Beans	0.08	0.01	0.23	-	2.88
Chick Peas	26.71	2.87	202.09	2.14	7.57
Lentils	10.37	1.11	62.34	0.66	6.01
Vetch	13.09	1.41	117.49	1.25	8.98
Others	65.39	7.03	216.63	2.30	3.31
Neug	37.11	3.99	80.29	0.85	2.16
Linseed	20.37	2.19	63.84	0.68	3.13
Fenugreek	1.63	0.18	3.33	0.04	2.04
Rapeseed	6.27	0.67	69.17	0.73	11.03
All Crops	930.43	100.00	9,423.48	100.00	10.13

Table 8.5 Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

East Shewa, Arsi, Bale and Borena Zones

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	1,090.94	84.57	14,035.92	91.07	12.87
Teff	299.08	23.18	3,131.78	20.32	10.47
Barley	156.67	12.14	2,344.42	15.21	14.96
Wheat	302.78	23.47	3,800.85	24.66	12.55
Maize	216.17	16.76	3,273.33	21.24	15.14
Sorghum	79.81	6.19	1,039.75	6.75	13.03
Millet	0.44	0.03	1.10	0.01	2.50
Oats	35.98	2.79	444.68	2.89	12.36
Pulses	142.01	11.01	1,127.99	7.32	7.94
Horse Beans	54.31	4.21	629.67	4.09	11.59
Field Peas	34.03	2.64	238.68	1.55	7.01
Haricot Beans	22.65	1.76	119.26	0.77	5.27
Chick Peas	11.71	0.91	47.34	0.31	4.04
Lentils	11.34	0.88	52.79	0.34	4.66
Vetch	7.98	0.62	40.25	0.26	5.04
Others	57.11	4.43	248.14	1.61	4.34
Neug	7.80	0.60	30.03	0.19	3.85
Linseed	42.72	3.31	175.38	1.14	4.11
Fenugreek	5.11	0.40	36.29	0.24	7.10
Rapeseed	1.47	0.11	6.44	0.04	4.38
All Crops	1,290.05	100.00	15,412.05	100.00	11.95

Table 8.6 Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

East and West Harerge Zones

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	299.79	92.66	4,160.45	92.83	13.88
Teff	20.62	6.37	164.01	3.66	7.95
Barley	9.80	3.03	75.76	1.69	7.73
Wheat	4.26	1.32	70.82	1.58	16.62
Maize	104.32	32.24	1,431.51	31.94	13.72
Sorghum	159.81	49.39	2,413.26	53.84	15.10
Millet	0.45	0.14	-	-	-
Oats	0.53	0.16	5.09	0.11	9.60
Pulses	22.80	7.05	309.45	6.90	13.57
Horse Beans	8.07	2.49	118.73	2.65	14.71
Field Peas	0.83	0.26	9.06	0.20	10.92
Haricot Beans	12.98	4.01	169.86	3.79	13.09
Chick Peas	0.44	0.14	6.12	0.14	13.91
Lentils	0.48	0.15	5.68	0.13	11.83
Vetch	-	-	-	-	-
Others	0.95	0.29	12.11	0.27	12.75
Neug	0.01	-	0.06	-	6.00
Linseed	0.23	0.07	2.16	0.05	9.39
Fenugreek	0.71	0.22	9.89	0.22	13.93
Rapeseed	-	-	-	-	-
All Crops	323.55	100.00	4,482.01	100.00	13.85

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

Somalie

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	68.11	99.08	807.53	99.23	11.86
Teff	0.04	0.06	0.44	0.05	11.00
Barley	4.49	6.53	42.75	5.25	9.52
Wheat	5.45	7.93	58.62	7.20	10.76
Maize	26.00	37.82	327.58	40.25	12.60
Sorghum	32.13	46.74	378.14	46.47	11.77
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	0.45	0.65	5.72	0.70	12.71
Horse Beans	-	-	-	-	-
Field Peas	0.01	0.01	0.02	-	2.00
Haricot Beans	0.10	0.15	1.92	0.24	19.20
Chick Peas	0.27	0.39	3.00	0.37	11.11
Lentils	0.07	0.10	0.78	0.10	11.14
Vetch	-	-	-	-	-
Others	0.19	0.28	0.55	0.07	2.89
Neug	-	-	-	-	-
Linseed	0.12	0.17	0.24	0.03	2.00
Fenugreek	0.07	0.10	0.31	0.04	4.43
Rapeseed	-	-	-	-	-
All Crops	68.74	100.00	813.80	100.00	11.84

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

Benshangul Gumez

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	81.85	86.60	952.02	95.53	11.63
Teff	17.84	18.88	90.41	9.07	5.07
Barley	1.07	1.13	6.33	0.64	5.92
Wheat	2.29	2.42	25.18	2.53	11.00
Maize	22.84	24.17	325.95	32.71	14.27
Sorghum	29.89	31.63	438.93	44.04	14.68
Millet	7.93	8.39	65.21	6.54	8.22
Oats	-	-	-	-	-
Pulses	3.26	3.45	19.70	1.98	6.04
Horse Beans	0.75	0.79	3.93	0.39	5.24
Field Peas	0.37	0.39	0.70	0.07	1.89
Haricot Beans	1.22	1.29	10.41	1.04	8.53
Chick Peas	0.88	0.93	4.54	0.46	5.16
Lentils	0.04	0.04	0.12	0.01	3.00
Vetch	-	-	-	-	-
Others	9.39	9.94	24.90	2.50	2.65
Neug	9.23	9.77	24.14	2.42	2.62
Linseed	0.15	0.16	0.73	0.07	4.87
Fenugreek	0.01	0.01	0.03	-	3.00
Rapeseed	-	-	-	-	-
All Crops	94.51	100.00	996.61	100.00	10.55

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

(S.N.N.P.R.)

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	609.06	86.43	7,091.90	87.54	11.64
Teff	160.38	22.76	1,319.32	16.28	8.23
Barley	49.32	7.00	518.46	6.40	10.51
Wheat	60.86	8.64	979.50	12.09	16.09
Maize	195.19	27.70	3,073.99	37.94	15.75
Sorghum	139.60	19.81	1,159.20	14.31	8.30
Millet	3.48	0.49	40.00	0.49	11.49
Oats	0.22	0.03	1.43	0.02	6.50
Pulses	94.94	13.47	1,006.59	12.42	10.60
Horse Beans	47.10	6.68	601.95	7.43	12.78
Field Peas	22.11	3.14	228.10	2.82	10.32
Haricot Beans	21.79	3.09	134.35	1.66	6.17
Chick Peas	2.92	0.41	30.52	0.38	10.45
Lentils	0.69	0.10	8.10	0.10	11.74
Vetch	0.34	0.05	3.58	0.04	10.53
Others	0.71	0.10	3.08	0.04	4.34
Neug	-	-	-	-	-
Linseed	0.59	0.08	2.44	0.03	4.14
Fenugreek	0.11	0.02	0.63	0.01	5.73
Rapeseed	-	-	-	-	-
All Crops	704.71	100.00	8,101.57	100.00	11.50

Table 11.1 Forecast of Area, Production and Yield of Major Crops in S.N.N.P.R by group of zones 1995/96 (1988 E.C.)

GROUP OF ZONES	TOTAL AREA (000' hectare)	TOTAL PRODUCTION (000' quintal)	YIELD (QT/HA)
Yem*, Keficho, Maji, Shekicho and Benchi Zones	100.01	1,006.40	10.06
North and South Omo, Derashe* and Konso* Zones	256.57	2,285.57	8.91
Gurage, Kembata and Hadia Zones	268.89	3,862.23	14.36
Sidama, Gedio, Burji* and Amaro* Zones	79.23	947.37	11.96
Total	704.71	8,101.57	11.50

\* Yem, Derashe, Konso, Burji & Amaro were special Weredas

Table 11.2 Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

Yem\*, Keficho, Maji, Shekicho and Benchi Zones

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	83.84	83.83	795.46	79.04	9.49
Teff	24.79	24.79	152.48	15.15	6.15
Barley	8.57	8.57	96.50	9.59	11.26
Wheat	3.19	3.19	44.17	4.39	13.85
Maize	25.67	25.67	270.37	26.87	10.53
Sorghum	20.98	20.98	224.88	22.34	10.72
Millet	0.54	0.54	6.59	0.65	12.20
Oats	0.09	0.09	0.48	0.05	5.33
Pulses	15.88	15.88	210.94	20.96	13.28
Horse Beans	8.70	8.70	130.80	13.00	15.03
Field Peas	5.69	5.69	74.58	7.41	13.11
Haricot Beans	1.44	1.44	4.78	0.47	3.32
Chick Peas	0.05	0.05	0.77	0.08	15.40
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	0.30	0.30	-	-	-
Neug	-	-	-	-	-
Linseed	0.30	0.30	-	-	-
Fenugreek	-	-	-	-	-
Rapeseed	-	-	-	-	-
All Crops	100.01	100.00	1,006.40	100.00	10.06

\* Yem was special Wereda

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

Benshangul Gumez

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	81.85	86.60	952.02	95.53	11.63
Teff	17.84	18.88	90.41	9.07	5.07
Barley	1.07	1.13	6.33	0.64	5.92
Wheat	2.29	2.42	25.18	2.53	11.00
Maize	22.84	24.17	325.95	32.71	14.27
Sorghum	29.89	31.63	438.93	44.04	14.68
Millet	7.93	8.39	65.21	6.54	8.22
Oats	-	-	-	-	-
Pulses	3.26	3.45	19.70	1.98	6.04
Horse Beans	0.75	0.79	3.93	0.39	5.24
Field Peas	0.37	0.39	0.70	0.07	1.89
Haricot Beans	1.22	1.29	10.41	1.04	8.53
Chick Peas	0.88	0.93	4.54	0.46	5.16
Lentils	0.04	0.04	0.12	0.01	3.00
Vetch	-	-	-	-	-
Others	9.39	9.94	24.90	2.50	2.65
Neug	9.23	9.77	24.14	2.42	2.62
Linseed	0.15	0.16	0.73	0.07	4.87
Fenugreek	0.01	0.01	0.03	-	3.00
Rapeseed	-	-	-	-	-
All Crops	94.51	100.00	996.61	100.00	10.55

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

(S.N.N.P.R.)

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	609.06	86.43	7,091.90	87.54	11.64
Teff	160.38	22.76	1,319.32	16.28	8.23
Barley	49.32	7.00	518.46	6.40	10.51
Wheat	60.86	8.64	979.50	12.09	16.09
Maize	195.19	27.70	3,073.99	37.94	15.75
Sorghum	139.60	19.81	1,159.20	14.31	8.30
Millet	3.48	0.49	40.00	0.49	11.49
Oats	0.22	0.03	1.43	0.02	6.50
Pulses	94.94	13.47	1,006.59	12.42	10.60
Horse Beans	47.10	6.68	601.95	7.43	12.78
Field Peas	22.11	3.14	228.10	2.82	10.32
Haricot Beans	21.79	3.09	134.35	1.66	6.17
Chick Peas	2.92	0.41	30.52	0.38	10.45
Lentils	0.69	0.10	8.10	0.10	11.74
Vetch	0.34	0.05	3.58	0.04	10.53
Others	0.71	0.10	3.08	0.04	4.34
Neug	-	-	-	-	-
Linseed	0.59	0.08	2.44	0.03	4.14
Fenugreek	0.11	0.02	0.63	0.01	5.73
Rapeseed	-	-	-	-	-
All Crops	704.71	100.00	8,101.57	100.00	11.50

Table 11.1 Forecast of Area, Production and Yield of Major Crops in S.N.P.R by group of zones 1995/96 (1988 E.C.)

GROUP OF ZONES	TOTAL AREA (000' hectare)	TOTAL PRODUCTION (000' quintal)	YIELD (QT/HA)
Yem*, Keficho, Maji, Shekicho and Benchi Zones	100.01	1,006.40	10.06
North and South Omo, Derashe* and Konso* Zones	256.57	2,285.57	8.91
Gurage, Kembata and Hadia Zones	268.89	3,862.23	14.36
Sidama, Gedio, Burji* and Amaro* Zones	79.23	947.37	11.96
Total	704.71	8,101.57	11.50

\* Yem, Derashe, Konso, Burji & Amaro were special Weredas

Table 11.2 Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

Yem\*, Keficho, Maji, Shekicho and Benchi Zones

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	83.84	83.83	795.46	79.04	9.49
Teff	24.79	24.79	152.48	15.15	6.15
Barley	8.57	8.57	96.50	9.59	11.26
Wheat	3.19	3.19	44.17	4.39	13.85
Maize	25.67	25.67	270.37	26.87	10.53
Sorghum	20.98	20.98	224.88	22.34	10.72
Millet	0.54	0.54	6.59	0.65	12.20
Oats	0.09	0.09	0.48	0.05	5.33
Pulses	15.88	15.88	210.94	20.96	13.28
Horse Beans	8.70	8.70	130.80	13.00	15.03
Field Peas	5.69	5.69	74.58	7.41	13.11
Haricot Beans	1.44	1.44	4.78	0.47	3.32
Chick Peas	0.05	0.05	0.77	0.08	15.40
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	0.30	0.30	-	-	-
Neug	-	-	-	-	-
Linseed	0.30	0.30	-	-	-
Fenugreek	-	-	-	-	-
Rapeseed	-	-	-	-	-
All Crops	100.01	100.00	1,006.40	100.00	10.06

\* Yem was special Wereda

Table 11.3 Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

North and South Omo, Derashe\* and Konso\* Zones

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	219.71	85.63	1,945.48	85.12	8.85
Teff	47.90	18.67	197.33	8.63	4.12
Barley	10.51	4.10	136.59	5.98	13.00
Wheat	2.71	1.06	39.38	1.72	14.53
Maize	61.60	24.01	987.90	43.22	16.04
Sorghum	96.88	37.76	583.10	25.51	6.02
Millet	0.10	0.04	1.19	0.05	11.90
Oats	-	-	-	-	-
Pulses	36.65	14.28	337.99	14.79	9.22
Horse Beans	17.18	6.70	225.34	9.86	13.12
Field Peas	7.23	2.82	77.46	3.39	10.71
Haricot Beans	9.86	3.84	23.17	1.01	2.35
Chick Peas	2.31	0.90	11.92	0.52	5.16
Lentils	0.06	0.02	0.09	-	1.50
Vetch	-	-	-	-	-
Others	0.21	0.08	2.10	0.09	10.00
Neug	-	-	-	-	-
Linseed	0.21	0.08	2.10	0.09	10.00
Fenugreek	-	-	-	-	-
Rapeseed	-	-	-	-	-
All Crops	256.57	100.00	2,285.57	100.00	8.91

\* Derashe and Konso were special Weredas

Table 11.4 Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

Gurage, Kembata and Hadiya Zones

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	253.96	94.45	3,709.33	96.04	14.61
Teff	81.34	30.25	906.29	23.47	11.14
Barley	13.71	5.10	138.71	3.59	10.12
Wheat	54.04	20.10	881.47	22.82	16.31
Maize	80.99	30.12	1,413.70	36.60	17.46
Sorghum	20.97	7.80	336.55	8.71	16.05
Millet	2.84	1.06	32.21	0.83	11.34
Oats	0.05	0.02	0.41	0.01	8.20
Pulses	14.74	5.48	151.92	3.93	10.31
Horse Beans	8.60	3.20	81.85	2.12	9.52
Field Peas	2.09	0.78	19.34	0.50	9.25
Haricot Beans	2.70	1.00	25.32	0.66	9.38
Chick Peas	0.56	0.21	17.62	0.46	31.82
Lentils	0.45	0.17	4.01	0.10	8.91
Vetch	0.34	0.13	3.58	0.09	10.53
Others	0.19	0.07	0.98	0.03	5.16
Neug	-	-	-	-	-
Linseed	0.08	0.03	0.35	0.01	4.38
Fenugreek	0.11	0.04	0.63	0.02	5.73
Rapeseed	-	-	-	-	-
All Crops	268.89	100.00	3,862.23	100.00	14.36

Table 11.5 Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

Sidama, Gedio, Burji\* and Amaro\* Zones

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	51.56	65.08	641.63	67.73	12.44
Teff	6.34	8.00	63.24	6.68	9.97
Barley	16.53	20.86	146.66	15.48	8.87
Wheat	0.92	1.16	14.48	1.53	15.74
Maize	26.93	33.99	402.03	42.44	14.93
Sorghum	0.76	0.96	14.67	1.55	19.30
Millet	-	-	-	-	-
Oats	0.07	0.09	0.55	0.06	7.86
Pulses	27.67	34.92	305.74	32.27	11.05
Horse Beans	12.62	15.93	163.95	17.31	12.99
Field Peas	7.09	8.95	56.72	5.99	8.00
Haricot Beans	7.78	9.82	81.09	8.56	10.42
Chick Peas	-	-	-	-	-
Lentils	0.18	0.23	4.00	0.42	22.22
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Fenugreek	-	-	-	-	-
Rapeseed	-	-	-	-	-
All Crops	79.23	100.00	947.37	100.00	11.96

\* Burji and Amaro wer special Werdas

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

Gambela

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	12.48	99.84	159.93	99.94	12.81
Teff	-	-	0.01	0.01	-
Barley	0.01	0.08	0.16	0.10	16.00
Wheat	-	-	-	-	-
Maize	6.59	52.72	100.85	63.02	15.30
Sorghum	5.80	46.40	57.99	36.24	10.00
Millet	0.08	0.64	0.92	0.57	11.50
Oats	-	-	-	-	-
Pulses	0.02	0.16	0.09	0.06	4.50
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	0.02	0.16	0.06	0.04	3.00
Chick Peas	-	-	0.03	0.02	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Fenugreek	-	-	-	-	-
Rapeseed	-	-	-	-	-
All Crops	12.50	100.00	160.02	100.00	12.80

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

Harari

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	4.28	98.85	77.23	98.87	18.04
Teff	-	-	0.03	0.04	-
Barley	0.06	1.39	0.83	1.06	13.83
Wheat	0.16	3.70	1.55	1.98	9.69
Maize	0.80	18.48	17.21	22.03	21.51
Sorghum	3.22	74.36	57.32	73.38	17.80
Millet	-	-	-	-	-
Oats	0.03	0.69	0.30	0.38	10.00
Pulses	0.05	1.15	0.88	1.13	17.60
Horse Beans	0.01	0.23	0.10	0.13	10.00
Field Peas	-	-	-	-	-
Haricot Beans	0.03	0.69	0.68	0.87	22.67
Chick Peas	-	-	0.01	0.01	-
Lentils	0.01	0.23	0.08	0.10	8.00
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Fenugreek	-	-	-	-	-
Rapeseed	-	-	-	-	-
All Crops	4.33	100.00	78.11	100.00	18.04

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

Addis Ababa

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	9.28	80.91	110.27	81.28	11.88
Teff	5.52	48.13	57.83	42.63	10.48
Barley	0.01	0.09	0.05	0.04	5.00
Wheat	3.66	31.91	51.68	38.10	14.12
Maize	-	-	-	-	-
Sorghum	0.08	0.70	0.69	0.51	8.63
Millet	-	-	-	-	-
Oats	-	-	0.02	0.01	-
Pulses	2.16	18.83	25.25	18.61	11.69
Horse Beans	0.31	2.70	1.00	0.74	3.23
Field Peas	0.05	0.44	0.39	0.29	7.80
Haricot Beans	-	-	-	-	-
Chick Peas	0.65	5.67	12.97	9.56	19.95
Lentils	0.66	5.75	4.76	3.51	7.21
Vetch	0.50	4.36	6.14	4.53	12.28
Others	0.03	0.26	0.14	0.10	4.67
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Fenugreek	0.03	0.26	0.14	0.10	4.67
Rapeseed	-	-	-	-	-
All Crops	11.47	100.00	135.66	100.00	11.83

Table 15. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

Dire Dawa

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	8.37	100.00	47.08	100.00	5.62
Teff	-	-	-	-	-
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	0.16	1.91	1.00	2.12	6.25
Sorghum	8.20	97.97	46.08	97.88	5.62
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	-	-	-	-	-
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	-	-	-	-	-
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Fenugreek	-	-	-	-	-
Rapeseed	-	-	-	-	-
All Crops	8.37	100.00	47.08	100.00	5.62

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

Harari

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	4.28	98.85	77.23	98.87	18.04
Teff	-	-	0.03	0.04	-
Barley	0.06	1.39	0.83	1.06	13.83
Wheat	0.16	3.70	1.55	1.98	9.69
Maize	0.80	18.48	17.21	22.03	21.51
Sorghum	3.22	74.36	57.32	73.38	17.80
Millet	-	-	-	-	-
Oats	0.03	0.69	0.30	0.38	10.00
Pulses	0.05	1.15	0.88	1.13	17.60
Horse Beans	0.01	0.23	0.10	0.13	10.00
Field Peas	-	-	-	-	-
Haricot Beans	0.03	0.69	0.68	0.87	22.67
Chick Peas	-	-	0.01	0.01	-
Lentils	0.01	0.23	0.08	0.10	8.00
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Fenugreek	-	-	-	-	-
Rapeseed	-	-	-	-	-
All Crops	4.33	100.00	78.11	100.00	18.04

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

Addis Ababa

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	9.28	80.91	110.27	81.28	11.88
Teff	5.52	48.13	57.83	42.63	10.48
Barley	0.01	0.09	0.05	0.04	5.00
Wheat	3.66	31.91	51.68	38.10	14.12
Maize	-	-	-	-	-
Sorghum	0.08	0.70	0.69	0.51	8.63
Millet	-	-	-	-	-
Oats	-	-	0.02	0.01	-
Pulses	2.16	18.83	25.25	18.61	11.69
Horse Beans	0.31	2.70	1.00	0.74	3.23
Field Peas	0.05	0.44	0.39	0.29	7.80
Haricot Beans	-	-	-	-	-
Chick Peas	0.65	5.67	12.97	9.56	19.95
Lentils	0.66	5.75	4.76	3.51	7.21
Vetch	0.50	4.36	6.14	4.53	12.28
Others	0.03	0.26	0.14	0.10	4.67
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Fenugreek	0.03	0.26	0.14	0.10	4.67
Rapeseed	-	-	-	-	-
All Crops	11.47	100.00	135.66	100.00	11.83

Table 15. Forecast of Area, Production and Yield of Major Crops for Private Peasant Holdings 1995/96 (1988 E.C.)

Dire Dawa

CROP	TOTAL AREA (000' hectare)	%	TOTAL PRODUCTION (000' quintal)	%	YIELD (QT/HA)
Cereals	8.37	100.00	47.08	100.00	5.62
Teff	-	-	-	-	-
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	0.16	1.91	1.00	2.12	6.25
Sorghum	8.20	97.97	46.08	97.88	5.62
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	-	-	-	-	-
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	-	-	-	-	-
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Fenugreek	-	-	-	-	-
Rapeseed	-	-	-	-	-
All Crops	8.37	100.00	47.08	100.00	5.62

APPENDIX INUMBER OF EAs SAMPLED AND ACTUALLY COVERED

Region	Strata	Number of		
		cover ed EAs	sampl ed EAs	
Tigray	1. Tigray	34	35	
Afar	2. Afar	13	15	
Amhara	3. North and South Gonder	38	40	
	4. East Gojam, West Gojam and Agawawi	40	40	
	5. North Wello and Wag Hamra	34	35	
	6. South Wello, North Shewa and Oromia Zone	40	40	
	Oromia	7. East and West Wellega	40	40
		8. Illubabor and Jimma	40	40
9. North and West Shewa		39	40	
10. E. Shewa, Arssi, Bale and Borena		40	40	
11. East and West Hararghe		38	40	
Somalie	12. Somalie	14	15	
Benish Gumez	13. Benishangul	15	15	
S.N.N.P.R	14. Yem, Keficho, Maji, Shekicho and Bench	35	35	
	15. N. Omo, S. Omo Derashe and Konso	35	35	
	16. Hadia, Kambata and Guraghe	35	35	
	17. Sidama, Gedeo, Burji and Amaro	35	35	
	Gambela	18. Gambela	14	15
Harari	19. Harari	10	10	
Addis Ababa	20. Addis Ababa	10	10	
Dire Dawa	21. Dire Dawa	8	10	
Total		608	620	

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

## Estimator of Variance for Total

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

$$v(\hat{Y}_h) = \frac{n_h}{n_h - 1} \left[ \sum (\hat{Y}_{hi} - \frac{\hat{Y}_h}{n_h})^2 \right] \quad (2)$$

Where:

$\hat{Y}_{hi}$  = estimated total for EA i in stratum h

$\hat{Y}_h$  = estimated total for stratum h

## Coefficient of variation of total

The coefficient of variation of total is defined as:

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

## Estimator of Ratio

The estimator of a given ratio  $\hat{R}_h$  in stratum h is the following:

$$\hat{R}_h = \frac{\hat{Y}_h}{\hat{X}_h}$$

Where:

$\hat{R}_h$  = estimate for the ratio of  $\hat{Y}_h$  to  $\hat{X}_h$  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:

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

STANDARDED ERROR AND COEFFICIENT OF VARIATION FOR FORECAST OF AREA AND PRODUCTION, OF MAJOR CROPS.ETHIOPIA 1995/96 (1988 E.C.)

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
TEFF	2131.781	127.058	5.960	17131.096	1519.405	8.870
BARELY	774.801	66.603	8.600	6953.513	809.797	11.650
WHEAT	890.797	75.287	8.450	11181.794	1100.165	9.840
MAIZE	1351.498	76.992	5.700	19566.830	1459.919	7.460
SORGHUM	1317.349	88.263	6.700	18020.412	1437.989	7.980
MILLET	272.901	37.997	13.920	2089.312	291.691	13.960
OATS	47.220	12.490	26.450	529.759	160.817	30.360
HORSEBEANS	351.545	26.085	7.420	4027.951	382.427	9.490
FIELDPEAS	184.945	19.845	10.730	1602.042	211.880	13.230
HARICOTBEANS	99.341	16.241	16.350	644.265	130.758	20.140
CHICKPEAS	127.674	20.406	15.980	905.860	167.221	18.460
LENTILS	52.861	7.396	13.990	261.813	45.427	17.350
VECTH	60.320	11.844	19.630	336.864	94.914	28.180
NEUG	224.111	26.257	11.720	639.947	107.283	16.760
LINSEED	114.885	17.182	14.960	373.001	72.062	19.320
FENUGREEK	12.739	3.521	27.640	67.917	26.580	39.140
RAPESEED	12.860	6.342	49.320	113.026	67.368	59.600

**NOTE** For estimates of area and production with CV greater than or equal to 30 %, users are advised to use them cautiously. Because the higher the CV the more unreliable the estimate will be.

STANDARDED ERROR AND COEFFICIENT OF VARIATION FOR FORECAST OF AREA AND PRODUCTION, OF MAJOR CROPS.1995/96(1988 E.C)

TIGRAY

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
TEFF	89.667	14.318	15.970	729.899	151.290	20.730
BARELY	93.420	18.986	20.320	345.361	78.692	22.790
WHEAT	98.770	30.992	31.380	508.102	175.608	34.560
MAIZE	51.038	14.674	28.750	294.060	101.900	34.650
SORGHUM	108.344	27.114	25.030	1631.951	630.289	38.620
MILLET	34.561	11.954	34.590	243.790	87.141	35.740
OATS	-	-	-	-	-	-
HORSEBEANS	13.285	3.785	28.490	112.811	41.534	36.820
FIELDPEAS	3.880	1.274	32.840	21.295	8.245	38.720
HARICOTBEANS	-	-	-	-	-	-
CHICKPEAS	7.036	2.817	40.040	44.895	19.042	42.410
LENTILS	6.385	2.083	32.630	14.777	5.531	37.430
VECTH	6.097	2.765	45.340	5.847	2.734	46.760
NEUG	0.715	0.401	56.070	3.215	1.801	56.040
LINSEED	4.111	1.482	36.050	8.888	3.515	39.550
FENUGREEK	0.195	0.128	65.680	0.864	0.596	68.980
RAPESEED	-	-	-	-	-	-

**Abbreviations.**

S.E. = Standard Error

C.V. = Coefficient of Variation

- Insignificant or not available

STANDARDER ERROR AND COEFFICIENT OF VARIATION FOR FORECAST OF  
AREA AND PRODUCTION, OF MAJOR CROPS, 1995/96 (1988 E.C)

OROMIA

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
FTEFF	957.772	97.236	15.070	8116.139	1222.770	15.070
FBARELY	354.595	52.535	18.660	3853.910	719.272	18.660
FWHEAT	484.780	58.779	13.690	6676.949	913.895	13.690
FMAIZE	745.331	62.403	10.830	11422.032	1237.041	10.830
FSORGHUM	504.718	56.285	11.470	7548.133	865.939	11.470
FMILLET	46.270	7.774	19.630	261.559	51.336	19.630
FOATS	39.130	11.816	32.440	474.797	154.026	32.440
FHORSEBEANS	154.866	18.685	14.430	1853.655	267.451	14.430
FFILDPEAS	72.418	12.790	20.440	629.107	128.585	20.440
FHARICOTBEANS	48.145	12.031	29.130	405.231	118.033	29.130
FCHICKPEAS	39.610	12.750	34.140	258.335	88.199	34.140
FLENTILS	22.535	5.325	28.320	121.879	34.513	28.320
FVECTH	21.141	7.238	41.240	158.331	65.295	41.240
FNEUG	103.362	18.858	26.290	307.742	80.904	26.290
FLINSEED	70.502	15.356	26.240	261.453	68.604	26.240
FFENUGREEK	7.742	3.187	51.100	50.737	25.927	51.100
FRAPESEED	8.397	5.923	81.520	79.154	64.529	81.520

Abbreviations.

S.E. = Standard Error

C.V. = Coefficient of Variation

- Insignificant or not available

STANDARDER ERROR AND COEFFICIENT OF VARIATION FOR FORECAST OF  
AREA AND PRODUCTION, OF MAJOR CROPS, 1995/96 (1988 E.C)

SOMALIE

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
TEFF	0.037	0.037	99.930	0.445	0.444	99.930
BARELY	4.491	2.002	44.570	42.752	16.722	39.110
WHEAT	5.450	1.877	34.450	58.621	21.373	36.460
MAIZE	25.962	11.286	43.470	327.101	190.427	58.220
SORGHUM	32.132	9.295	28.930	378.136	108.955	28.810
MILLET	-	-	-	-	-	-
OATS	-	-	-	-	-	-
HORSEBEANS	-	-	-	-	-	-
FIELDPEAS	0.005	0.005	99.930	0.022	0.022	99.930
HARICOTBEANS	0.104	0.074	70.940	1.921	1.451	75.550
CHICKPEAS	0.271	0.271	99.930	2.997	2.995	99.930
LENTILS	0.067	0.036	54.280	0.776	0.435	56.140
VECTH	-	-	-	-	-	-
NEUG	-	-	-	-	-	-
LINSEED	0.119	0.119	99.930	0.242	0.242	99.930
FENUGREEK	0.068	0.048	69.760	0.311	0.225	72.370
RAPESEED	-	-	-	-	-	-

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, 1995/96(1988 E.C)

BENSHANGUL GUMEZ

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
TEFF	17.837	4.971	27.870	90.413	41.806	46.240
BARELY	1.065	1.055	99.070	6.330	6.270	99.070
WHEAT	2.289	2.136	93.300	25.181	23.304	92.550
MAIZE	22.840	3.499	15.320	325.951	94.116	28.870
SORGHUM	29.893	5.882	19.680	438.928	119.745	27.280
MILLET	7.928	3.491	44.040	65.214	34.031	52.180
OATS	-	-	-	-	-	-
HORSEBEANS	0.746	0.547	73.340	3.930	2.712	69.010
FIELDPEAS	0.373	0.370	99.150	0.699	0.693	99.150
HARICOTBEANS	1.218	0.738	60.570	10.412	8.210	78.850
CHICKPEAS	0.885	0.857	96.870	4.536	4.497	99.130
LENTILS	0.040	0.027	68.360	0.120	0.086	71.640
VECTH	-	-	-	-	-	-
NEUG	9.229	2.417	26.190	24.136	11.986	49.660
LINSEED	0.153	0.083	54.330	0.733	0.417	56.890
FENUGREEK	0.009	0.009	99.890	0.028	0.028	99.890
RAPESEED	-	-	-	-	-	-

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, 1995/96(1988 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. (%)
TEFF	160.377	20.787	12.960	1319.325	241.761	18.320
BARELY	49.323	10.060	20.400	518.460	113.458	21.880
WHEAT	60.864	13.757	22.600	979.499	216.829	22.140
MAIZE	195.193	24.692	12.650	3073.991	476.270	15.490
SORGHUM	139.597	17.104	12.250	1159.196	183.116	15.800
MILLET	3.483	1.542	44.260	39.996	18.637	46.600
OATS	0.222	0.109	49.080	1.435	0.766	53.410
HORSEBEANS	47.098	8.440	17.920	601.948	113.732	18.890
FIELDPEAS	22.107	5.197	23.510	228.098	53.214	23.330
HARICOTBEANS	21.789	3.941	18.090	134.351	38.186	28.420
CHICKPEAS	2.915	1.268	43.490	30.516	19.011	62.300
LENTILS	0.694	0.361	51.970	8.096	5.185	64.040
VECTH	0.338	0.337	99.870	3.584	3.579	99.870
NEUG	-	-	-	-	-	-
LINSEED	0.594	0.377	63.410	2.443	2.118	86.700
FENUGREEK	0.114	0.069	60.730	0.633	0.393	62.100
RAPESEED	-	-	-	-	-	-

Abbreviations.

S.E. = Standard Error

C.V. = Coefficient of Variation

- Insignificant or not available

STANDARDER ERROR AND COEFFICIENT OF VARIATION FOR FORECAST OF  
AREA AND PRODUCTION, OF MAJOR CROPS, 1995/96 (1988 E.C)

GAMBELA

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
TEFF	-	-	-	-	-	-
BARELY	0.012	0.012	97.310	0.158	0.154	97.330
WHEAT	-	-	-	-	-	-
MAIZE	6.587	2.237	33.960	100.853	34.849	34.550
SORGHUM	5.796	1.954	33.720	57.985	17.910	30.890
MILLET	0.077	0.073	94.300	0.922	0.869	94.300
OATS	-	-	-	-	-	-
HORSEBEANS	-	-	-	-	-	-
FIELDPEAS	-	-	-	-	-	-
HARICOTBEANS	0.017	0.013	75.220	0.063	0.047	75.000
CHICKPEAS	0.002	0.002	99.830	0.026	0.026	99.830
LENTILS	-	-	-	-	-	-
VECTH	-	-	-	-	-	-
NEUG	-	-	-	-	-	-
LINSEED	-	-	-	-	-	-
FENUGREEK	0.002	0.002	99.710	0.003	0.003	99.710
RAPESEED	-	-	-	-	-	-

Abbreviations.

S.E. = Standard Error

C.V. = Coefficient of Variation

- Insignificant or not available

STANDARDER ERROR AND COEFFICIENT OF VARIATION FOR FORECAST OF  
AREA AND PRODUCTION, OF MAJOR CROPS, 1995/96 (1988 E.C)

HARARI

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
TEFF	0.004	0.004	99.280	0.035	0.034	99.280
BARELY	0.056	0.029	52.010	0.826	0.410	49.670
WHEAT	0.159	0.069	43.330	1.546	0.600	38.770
MAIZE	0.804	0.143	17.810	17.212	2.966	17.230
SORGHUM	3.222	0.471	14.630	57.319	6.769	11.810
MILLET	-	-	-	-	-	-
OATS	0.033	0.031	94.170	0.296	0.279	94.160
HORSEBEANS	0.009	0.007	82.320	0.098	0.075	76.210
FIELDPEAS	-	-	-	-	-	-
HARICOTBEANS	0.033	0.021	65.440	0.684	0.450	65.720
CHICKPEAS	0.001	0.001	99.280	0.014	0.014	99.280
LENTILS	0.009	0.009	99.710	0.082	0.082	99.710
VECTH	-	-	-	-	-	-
NEUG	-	-	-	-	-	-
LINSEED	-	-	-	-	-	-
FENUGREEK	-	-	-	-	-	-
RAPESEED	-	-	-	-	-	-

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, 1995/96 (1988 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. (%)
TEFF	5.518	1.006	18.230	57.826	12.807	22.150
BARELY	0.008	0.005	67.520	0.046	0.033	71.620
WHEAT	3.663	0.868	23.690	51.675	14.216	27.510
MAIZE	0.003	0.002	76.070	0.001	0.001	97.330
SORGHUM	0.082	0.046	56.850	0.695	0.446	64.170
MILLET	-	-	-	-	-	-
OATS	0.002	0.002	99.160	0.024	0.024	99.160
HORSEBEANS	0.306	0.163	53.220	0.996	0.410	41.210
FIELDPEAS	0.046	0.031	67.470	0.387	0.260	67.100
HARICOTBEANS	-	-	-	-	-	-
CHICKPEAS	0.646	0.268	41.530	12.972	6.831	52.660
LENTILS	0.661	0.358	54.240	4.756	2.856	60.040
VECTH	0.505	0.088	17.490	6.144	1.090	17.740
NEUG	0.002	0.002	98.760	0.001	0.001	98.760
LINSEED	-	-	-	-	-	-
FENUGREEK	0.027	0.012	45.780	0.142	0.072	50.640
RAPESEED	-	-	-	-	-	-

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, 1995/96 (1988 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. (%)
TEFF	-	-	-	-	-	-
BARELY	-	-	-	-	-	-
WHEAT	-	-	-	-	-	-
MAIZE	0.164	0.081	49.180	1.004	0.614	61.130
SORGHUM	8.202	2.363	28.810	46.081	17.751	38.520
MILLET	-	-	-	-	-	-
OATS	-	-	-	-	-	-
HORSEBEANS	-	-	-	-	-	-
FIELDPEAS	-	-	-	-	-	-
HARICOTBEANS	-	-	-	-	-	-
CHICKPEAS	-	-	-	-	-	-
LENTILS	-	-	-	-	-	-
VECTH	-	-	-	-	-	-
NEUG	-	-	-	-	-	-
LINSEED	-	-	-	-	-	-
FENUGREEK	-	-	-	-	-	-
RAPESEED	-	-	-	-	-	-

Abbreviations.

S.E. = Standard Error

C.V. = Coefficient of Variation

- Insignificant or not available

APPEENDIX IV NUMBER OF FIELDS MEASURED UNDER MAJOR CROPS

REGION	REPORTING LEVELS	NUMBER OF FIELDS MEASURED
TIGRAY	1. TIGRAY	1581
AFAR	2. AFAR	340
AMHARA	3. NORTH & SOUTH GONDER	2542
	4. EAST & WEST GOJAM & AGEWAWI	2806
	5. NORTH WOLLO & WAG HAMRA	1825
	6. SOUTH WOLLO, OROMIA & NORTH SHOA	2573
	TOTAL	9746
OROMIA	7. EAST & WEST WELLEGA	3344
	8. ILLUBABOR & JIMMA	2270
	9. NORTH AND WEST SHQA	2677
	10. EAST SHOA, ARSSI, BALE & BORENA	2162
	11. EAST HARERGHE & WEST HARERGHE	1856
	TOTAL	12309
SOMALIE	12. SOMALIE	420
BENSHANGULE GUMEZ	13. BENSHANGULE GUMEZ	789
S.N.N.P.R	14. YEM, KEFICHO, MAJI, SHEKICHO & BENCH	1692
	15. NORTH & SOUTH OMO, DERASHE AND KONSO	1778
	16. HADIA, KEMBATA & GURAGHE	2398
	17. SIDAMA, GEDEO, BURJI & AMARO	1847
	TOTAL	7715
GAMBELA	18. GAMBELA	620
HARARI	19. HARARI	688
ADDIS ABABA	20. ADDIS ABABA	466
DIRE DAWA	21. DIRE DAWA	190
	GRAND TOTAL	34864

