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THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

CENTRAL STATISTICAL AUTHORITY

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

VOLUME V

REPORT ON

AREA AND PRODUCTION OF BELG SEASON CROPS

FOR

(Private Peasant Holdings)

Addis Ababa
July, 1996

152 STATISTICAL BULLETIN 152

5-B

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1. INTRODUCTION

Agriculture plays a major role in the economy of Ethiopia. It accounts for about 55 percent of the GDP, 80 percent of the employment and 60 percent of the exports. Hence, the collection of reliable, comprehensive and timely statistical information in this sector is considered essential for the formulation, planning and assessment of agricultural development plans. Hence, it is clear that adquate supply of reliable and timely statistical data will definatly facilitates the capacity of planners and policy makers to effectively carry out their activities.

The Central Statistical Authority (CSA) has been conducting Agricultural Sample Surveys on annual basis since 1980/81 (1973 E.C.) to provide the statistical data mentioned above. The survey was interrupted in 1992/93 and 1993/94 because during these two years the CSA was fully engaged in undertaking the preparatory activities for the 1994 Population and Housing Census. However, right after undertaking the 1994 Population and Housing Census, the annual agricultural survey was resumed in November 1994.

This report (volume V) on Area and Production of Major Belg Season Crop presents the objectives of the survey; coverage and content of the survey; sample design; field organization; training of field staff; method of data collection; and survey results on area, production and yield of major belg season crops for 1995/96 belg season.

It further presents the survey results at the country, regional and group of zone(in Amhara, Oromiya and Southern Nations and Nationalities Peoples' Region), levels. (For details of Belg questionnaires refer to the Appendix I)

2. OBJECTIVES OF THE SURVEY.

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

In particular, the objectives of the survey were to estimate the total cultivated land; total production and yield of major crops per hectare (main and belg season); area under different land uses; quantity and cost of agricultural inputs by type (main and belg season); number of livestock and poultry by type, purpose, sex and age; number of beehives in the private peasant holdings at country, regional and group of zone levels.

3. COVERAGE OF THE SURVEY

The 1995/96 (1988 E.C.) annual agricultural sample survey 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.

TABLE A. AREAL COVERAGE OF THE 1995/96 AGRICULTURAL SAMPLE SURVEY [1]

Region	NUMBER OF ZONES		NUMBER OF WEREDAS	
	TOTAL	COVERED IN THE SURVEY	PLANNED TO BE COVERED IN THE SURVEY	COVERED IN THE SURVEY
TIGRAY[2]	5	4	35	34
AFAR[3]	5	2	6	4
AMHARA	10	10	96	95
OROMIYA	12	12	148	144
SOMALIE [4]	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[5]	6	2	5	5
TOTAL	69	54	381	367

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 sudentary 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 and Nationalities Peoples' Region

A total of 620 enumeration areas were selected to be covered in the survey in all regions. 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.

4. BASIC CONCEPTS AND DEFINITIONS

The concepts and definitions used in the survey are defined as follows.

Enumeration Area(EA): An Enumeration Area in rural parts of the Country is a locality that is less than or equal to a farmer's association area and usually it 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 to greater or lesser extent. They may be related or unrelated persons, or a combination of both.

Holder: A holder is a person who exercises management control over the operations of the agricultural holding and takes the major decision regarding the utilization of the available

resources. He has technical and economic responsibility for the holding. He may operate the holding directly as an owner or as a manager.

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

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

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.

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

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

Belg season crops: are defined as any crops that are harvested during the months of March(Megabit) to August(Nehase). While

Meher season crops: are those crops that are harvested during September(Meskerem) to February(Yekatit) are considered as main (Meher) season crops.

5. SAMPLE DESIGN

A two-stage stratified sample design was used for the 1995/96 (1988 E.C.) Annual Agricultural Sample survey. In three regions, namely, in Amhara, Oromia and Southern Nations and Nationalities Peoples' Region, 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 from a fresh list of agricultural households. All information on belg season

agricultural activities were collected from these households.

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

6. FIELD ORGANIZATION.

CSA branch statistical office heads, field supervisors and enumerators were fully involved in the survey. Hence, 15 statistical branch office heads, about 189 field supervisors, each supervising 5 enumerators in most cases and about 672 enumerators (including reserves)stationed in each of the selected EAs, experts from head office, other support staff and about 62 drivers were involved in the operation.

Sets of necessary survey equipment (ropes, compasses, protractors, rulers, iron poles, measuring tapes, balance scales, etc.) were made available to the enumerators. In order to facilitate the field work and to standardize the quality of the data collected, 62 vehicles were put on operation during the field work of the agricultural sample survey.

7. TRAINING OF FIELD STAFF

At the outset all relevant materials, like equipment have been procured, questionnaires and instruction manuals were prepared and printed. Then the training program for the field staff was carried out in two stages. In the first stage, about 90 trainees i.e.

experts from the head office, branch statistical office heads and some of the field supervisors were given training for one week at the head office. Some of those trained in the first stage conducted similar training for about 140 field supervisors and about 651 enumerators for 10 days in all the 15 branch offices all over the country.

During the training the field staff were given detailed class room instruction on the objective and uses of the survey, 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.

8. METHOD OF DATA COLLECTION.

Information on area and production of major belg season crops, agricultural practices(use of fertilizer, use of pesticide, use of improved seed and use of irrigation), were collected subjectively by interviewing the holders in the sampled households. The total number of EAS and households reporting 1995/96(1988 E.C) Belg crop production by region are given in appendix III.

There are two well known crop production seasons in Ethiopia Meher (Main) and belg seasons . According to generally accepted definitions, Meher season refers to long rainy season, which normally occurs from June to September. While "Belg season" refers to small rainy season, which normally occurs from February to May. In most cases during Belg period long maturing crops are planted and their harvest can extend to December or January. Most of the

time, short maturing crops are planted during Belg period and are harvested in June or July.

However, due to the heterogeneity of belg practices in different parts of the country and the overlapping nature of sowing period for some Meher season crops the reports on belg season crops in the past faced problem of identification. Hence, in order to report the two seasons crops separately and not to overlook or miss agricultural practices performed all year round, either through irrigation, use of soil moister from dried swampy or marshy areas the following definition has been adopted since 1987/88.

Belg season crops were defined as any crops that are harvested during the months of March to August, while those crops that are harvested during September to February are considered as main (meher) season crops.

This report, consists of results on area, production and yield of major belg season crops for the year 1995/96 (1988 E.C). The data on area, production and agricultural practices of belg season crops were collected using interview method. The reported data on local units were converted to in equivalent metric units using the conversion factors of local units at wereda level prepared by CSA and the data were processed by computer.

9. EDITING, CODING AND VERIFICATION

The editing and coding instruction manuals were prepared and printed. Then intensive training was given to the editor-coders

for two days. About 36 editor-coders were involved to accomplish the editing and coding tasks. In due course, one professional staff was assigned to answer questions, clear doubts,...etc. so as to facilitate the editing and coding activity. In addition, the edited and coded questionnaires were checked by about 7 supervisors/verifiers. The verification was done on 100% basis.

10. DATA ENTRY, CLEANING AND PROCESSING

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

11. SUMMARY OF SURVEY RESULTS.

1. Results 1995/96(1988 E.C) Both season (Meher and Belg)

In this report summary on the estimates of area and production of major crops in both seasons(meher and belg) and details on belg season crops for 1995/96 (1988 E.C) for private peasant holdings are presented. The results are given at the country, regional and group of zones levels. Discussion on some of the major survey findings are presented below.

The **total area and production** of major crops **in both seasons**,

FIG 1. ESTIMATES OF TOTAL AREA UNDER MAJOR CROPS FOR PRIVATE PEASANT HOLDINGS IN ETHIOPIA, BOTH SEASONS 1995/96(1988 E.C.)

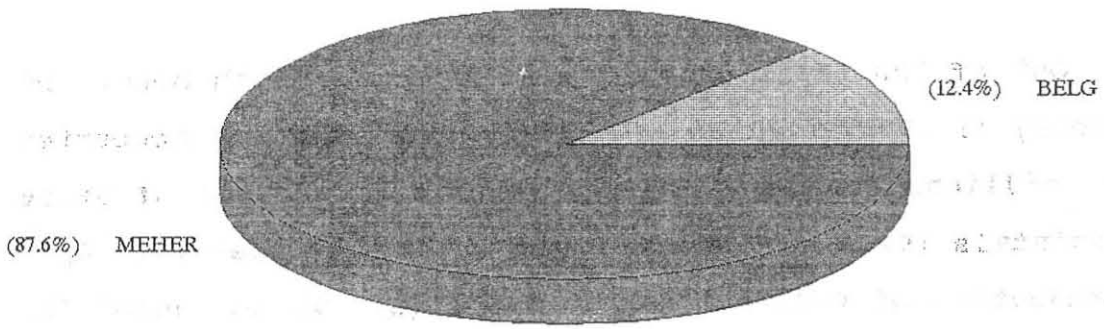
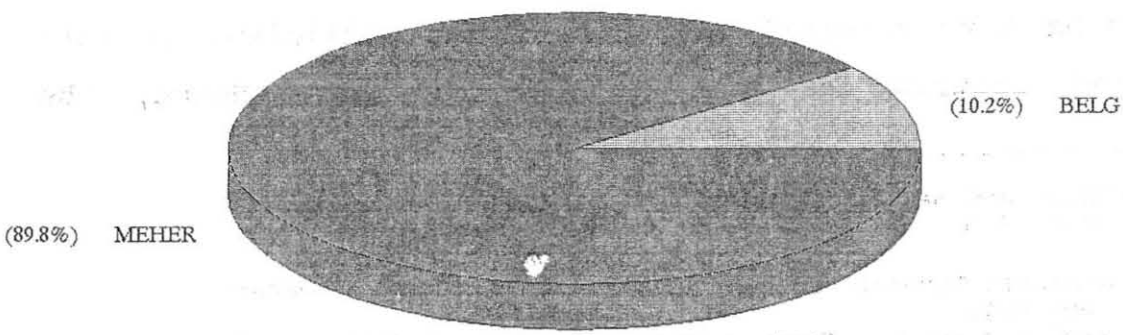


FIG 2. ESTIMATES OF TOTAL PRODUCTION UNDER MAJOR CROPS FOR PRIVATE PEASANT HOLDINGS IN ETHIOPIA, BOTH SEASONS 1995/96(1988 E.C.)



was estimated to be **9.07 million hectares** and **103.28 million quintals** with mean yield of **11.39 quintals per hectare.**

Out of the above mentioned totals **1.12 (12.46%) million hectares** and **10.49(10.2%) million quintals** was the contribution of **Belg.**(For the details see fig 1 and 2, and Summary Tables B and C).

Out of the total output of major crops (both Meher and belg seasons) of 1995/96 (1988 E.C), **area under cereals** accounted for **7.67 million hectares (88.7 %)** with **a production of 92.66 million quintals (94.9 %).** About **1.01 million hectares (8.7 %)** with **a production of 8.66 million quintals (5.0 %)** accounted for **pulses**, and **0.39 million hectares (2.6 %)** with **a production of 1.96 million quintals (0.1%)** accounted for **other crops (mainly oilseeds)**(for details see Fig. 3 and 4, and summary Tables B and C).

2. Comparison of 1994/95 and 1995/96 of Both and Belg Seasons, Area and Production of Major Crops.

As it has been reported by USAID[1] and a number of other reports[2], due to the timely onset of Meher Season rain fall except for the delay of belg rains by two to three weeks, Meher and Belg season rains have generally been more than sufficient in both amount and distribution over all the country. Hence, the

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[1] Monthly Food Security Bulletin, USAID Famine Early Warning System, 14 June 1996.

[2] a. Seasonal Agrometeorological Bulletin, Ministry of Water Resources, June 4,1996.
b. Preliminary Belg Crop Production Assessemnt Report in Oromiya and S.N.N.P Regions, Ministry of Agriculture, March 29-April 30, 1996.
c. Preliminary Belg Crop Production Assessemnt Report in North Ethiopia, Ministry of Agriculture, April,1996.

FIG 3. ESTIMATES OF TOTAL AREA UNDER MAJOR BELG SEASON CROPS FOR PRIVATE PEASANT HOLDINGS IN ETHIOPIA, 1995/96 (1988 E.C.)

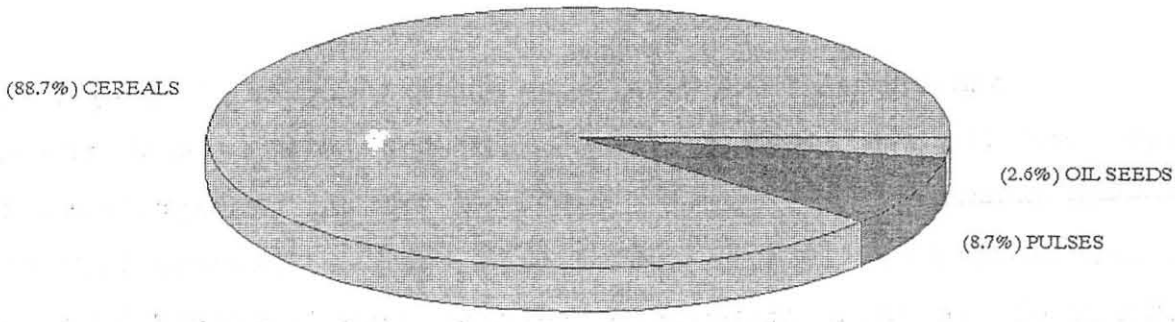
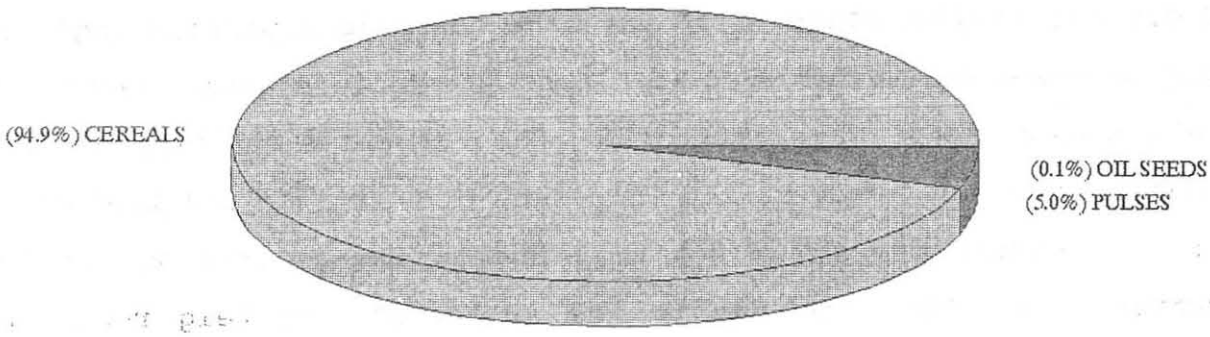


FIG 4. ESTIMATES OF TOTAL PRODUCTION UNDER MAJOR BELG SEASON CROPS FOR PRIVATE PEASANT HOLDINGS IN ETHIOPIA, 1995/96 (1988 E.C.)



1995/96(1988 E.C.)crop year is considered as one of the best crop production years in recent history. The results of the Agricultural Sample Survey conducted in the same year has also justified these statements.

Comparison of the total area and production of 1994/95 (1987 E.C) and 1995/96 (1988 E.C) was made for both seasons and belg season separately in summary Tables C and D, respectively. Thus compared with the 1994/95(1987 E.C.), the 1995/96(1988 E.C) total output of the major crops(both seasons) have **increased by 17.67 % in area** and by **37.73 % in production.** The increase ranges from **9.78%** for **pulses** to **18.91 %** for **cereals in area** and from **9.34%** for **Pulses** to **67.52%** for **other crops (mainly oilseeds)in production.**

The 1995/96(1988 E.C.) total area for major belg season crops have increased by **49.60 %** and by **129.54 %** for production compared to last year's estimate (for details refer to summary Table D).

Comparison of the total area and production of 1994/95 (1987 E.C.) and 1995/96 (1988 E.C.) was made for belg reporting regions, and is presented in table 1. In almost all regions area under major belg season crops have increased when compared to that of last year's estimate. However, the increases of both area and production of belg season crops is not only due to the performance of the survey year but also due to the increment of belg reporting regions, they were only 7 in 1994/95(1987 E.C) and the belg reporting regions have increased to 10 in 1995/96 (1988 E.C).

SUMMARY TABLE B. TOTAL AREA AND PRODUCTION OF MAJOR CROPS FOR PRIVATE PEASANT HOLDINGS IN ETHIOPIA, BOTH SEASONS, 1995/96 (1988 E.C.)

TYPE OF CROP	AREA IN MILLION HACTARES					
	MEHER	%	BELG	%	BOTH	%
CEREALS	6.65	83.65	1.02	90.91	7.67	84.55
PULSES	0.91	11.45	0.10	8.91	1.01	11.13
OTHERS	0.39	4.91	0.002	0.18	0.39	4.32
TOTAL	7.95	100.00	1.12	100.00	9.07	100.00

TYPE OF CROP	PRODUCTION IN MILLION QUINTALS					
	MEHER	%	BELG	%	BOTH	%
CEREALS	82.70	89.13	9.96	94.95	92.66	89.72
PULSES	8.14	8.77	0.52	4.96	8.66	8.38
OTHERS	1.95	2.10	0.01	0.10	1.96	1.90
TOTAL	92.79	100.00	10.49	100.00	103.28	100.00

SUMMARY TABLE C. TOTAL AREA, PRODUCTION AND PERCENT CHANGE OF MAJOR CROPS FOR PRIVATE PEASANT HOLDINGS IN ETHIOPIA, BOTH SEASONS, 1994/95 (1987 E.C.) AND 1995/96 (1988 E.C.)

TYPE OF CROP	AREA IN MILLION HACTARES			PRODUCTION IN MILLION QUINTALS		
	1994/95 (1987 E.C)	1995/96 (1988 E.C)	% CHANGE	1994/95 (1987 E.C)	1995/96 (1988 E.C.)	% CHANGE
CEREALS	6.45	7.67	18.91	65.89	92.66	40.63
PULSES	0.92	1.01	9.78	7.92	8.66	9.34
OTHERS	0.35	0.39	12.00	1.17	1.96	67.52
TOTAL	7.71	9.07	17.67	74.99	103.28	37.73

SUMMARY TABLE D. TOTAL AREA, PRODUCTION AND PERCENT CHANGE OF MAJOR CROPS FOR PRIVATE PEASANT HOLDINGS IN ETHIOPIA, BELG SEASON, 1994/95 (1987 E.C.) AND 1995/96 (1988 E.C.)

TYPE OF CROP	BELG SEASON					
	AREA IN MILLION HACTARES			PRODUCTION IN MILLION QUINTALS		
	1994/95 (1987 E.C)	1995/96 (1988 E.C)	% CHANGE	1994/95 (1987 E.C)	1995/96 (1988 E.C)	% CHANGE
CEREALS	0.70	1.02	45.71	4.35	9.96	128.97
PULSES	0.04	0.10	150.00	0.20	0.52	160.00
OTHERS	0.01	0.002	−66.67	0.02	0.01	−50.00
TOTAL	0.75	1.12	49.60	4.57	10.49	129.54

Despite the over all increase of the area and production of major belg season crops in 1995/96(1988 E.C.), only a decrease of 2.52% was reported in area under belg season crops for Tigray, while decreases of 53.10 % and 30.12% in production were reported for Gambela and Harari regions respectively (for details see Tables 1 and 2).

3.Results of 1995/96 (1988 E.C) Belg Season crops

As mentioned earlier, the share of belg cereal crops was significant in 1995/96 belg season cultivated both in area and production. However, large variations were observed in the proportion of area and production among cereal crops. For instance the highest area and production were reported for **maize** and **barley**, followed by **sorghum, teff**, and **wheat** (For the details see Table 3 and Fig. 6).

NOTES:

1. *Some estimates in all reporting levels are excluded due to high coefficient of variations. Neverthless, they are incorporated in the total estimates. Hence, the sum of the specific estimates may not be equal to the total estimates.*
2. *Users are also advised to use those estimates with 30-50% coeficient of variation(cv) cautiosly.*

TABLE 1. ESTIMATE OF TOTAL AREA,PRODUCTION AND PERCENT CHANGES OF BELG SEASON CROPS FOR PRIVATE PEASANT HOLDINGS IN ETHIOPIA, BY REGION

REGION(KILLIL)	AREA (000'HA)			PRODUCTION (000'QT)		
	1994/95 (1987 E.C.)	1995/96 (1988 E.C.)	% CHANGE	1994/95 (1987 E.C.)	1995/96 (1988 E.C.)	% CHANGE
TIGRAY	28.51	27.79	−2.52	102.46	285.97	179.10
AFAR	–	5.52	–	–	19.98	–
AMHARA	140.76	148.08	5.20	1215.32	1556.44	28.07
OROMIA	307.41	520.59	69.35	2047.24	5055.92	146.96
SOMALIE	–	46.11	–	–	303.59	–
BENSHANGUL–GUMEZ	–	12.09	–	–	64.87	–
S.N.N.P.R	271.41	357.18	31.60	1178.52	3184.35	170.20
GAMBELA	1.57	6.59	**	20.19	14.11	−30.12
HARARI	0.15	0.64	**	1.13	0.53	−53.10
ADDISABABA	–	–	–	–	–	–
DIRE DAWA	0.19	0.49	152.06	0.26	2.53	**
TOTAL	750.00	1125.08	50.01	4565.12	10488.29	129.75

** Such higher percentage changes for area and production for Gambela, Harari and Dire Dawa are to be used coutiously. These increases may or may not indicate the true trend of area and production in these regions. However, This situation coud be related to the relatively smaller sample size used in the above mentioned regions.

– Not Reported

TABLE 2. ESTIMATE OF TOTAL AREA,PRODUCTION AND PERCENT SHARE OF BELG FOR 1995/96(1988 E.C.) FOR PRIVATE PEASANT HOLDINGS IN ETHIOPIA, BY REGION

REGION(KILLIL)	AREA UNDER MAJOR CROPS			PRODUCTION OF MAJOR CROPS			TOTAL	
	MEHER ('000 HA)	BELG ('000 HA)	% BELG	MEHER ('000 QT)	BELG ('000 QT)	% BELG	AREA ('000 HA)	PRODUC. ('000 QT)
TIGRAY	481.43	27.79	5.46	5278.22	285.97	5.14	509.22	5564.19
AFAR	24.34	5.52	18.49	193.23	19.98	9.37	29.86	213.21
AMHARA	2933.08	148.08	4.81	28612.93	1556.44	5.16	3081.16	30169.37
OROMIA	3624.71	520.59	12.56	47493.53	5055.92	9.62	4145.30	52549.45
SOMALIE	59.73	46.11	43.57	424.83	303.59	41.68	105.84	728.42
BENSHANGUL–GUMEZ	95.86	12.09	11.20	1058.50	64.87	5.77	107.95	1123.37
S.N.N.P.R	697.60	357.18	33.86	9265.15	3184.35	25.58	1054.78	12449.5
GAMBELA	10.08	6.59	39.53	227.89	14.11	5.83	16.67	242
HARARI	4.41	0.64	12.67	46.01	0.53	1.14	5.05	46.54
ADDISABABA	9.91	–	0.00	147.61	–	0.00	9.91	147.61
DIRE DAWA	7.39	0.49	6.22	43.29	2.53	5.52	7.88	45.82
TOTAL	7948.54	1125.08	12.40	92791.19	10488.29	10.16	9073.62	103279.5

– Not Reported

FIG 5. ESTIMATES OF TOTAL AREA AND PRODUCTION UNDER MAJOR BELG SEASON CROPS
FOR PRIVATE PEASANT HOLDINGS IN ETHIOPIA, BY REGION, 1995/96 (1988 E.C.)

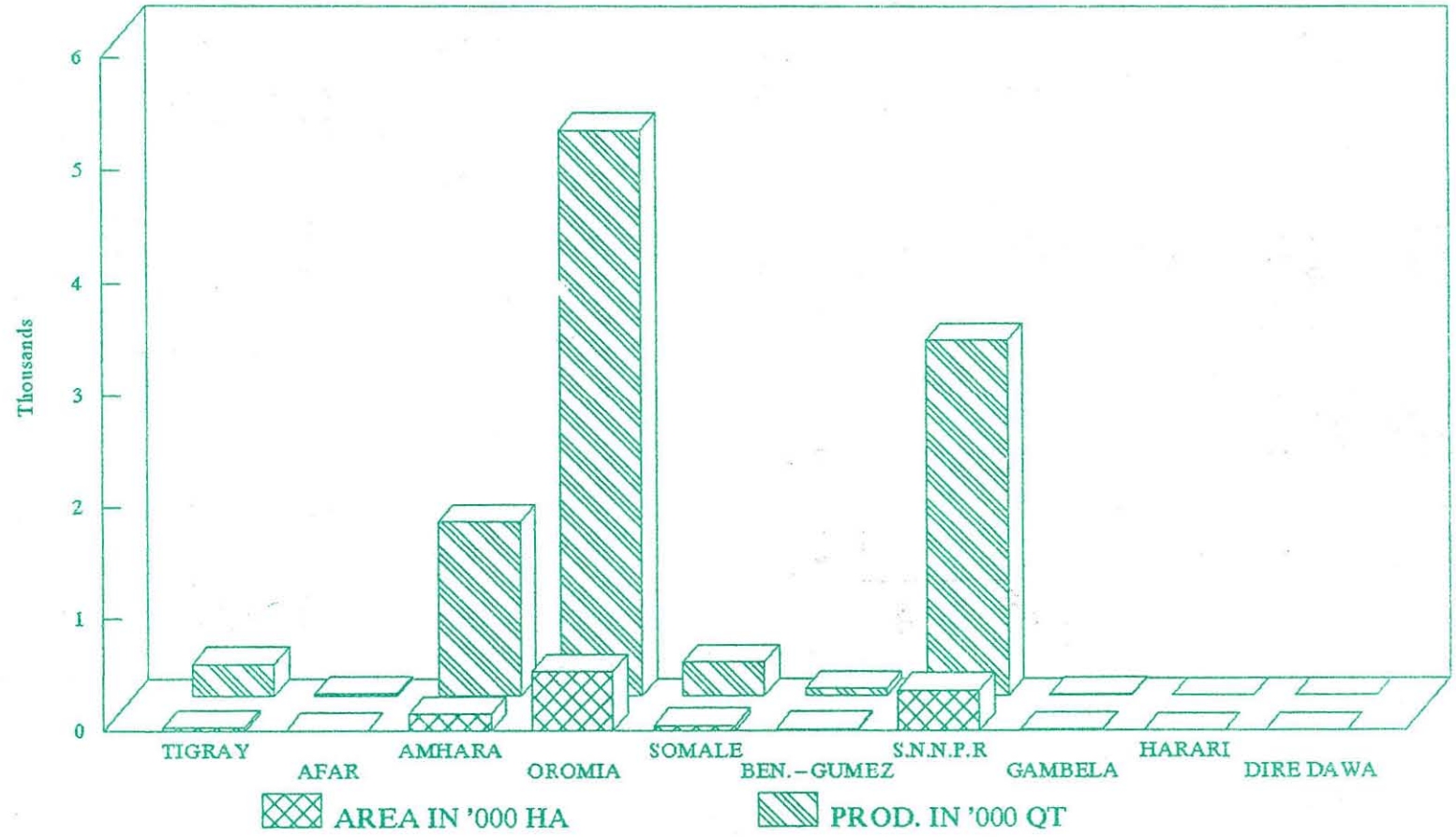


Table 3. Estimates of Area, Production, their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

NATIONAL

CROP TYPE	TOTAL AREA ('000 hectare)	TOTAL AREA %	TOTAL PRODUCTION ('000 quintal)	TOTAL PRODUCTION %	YIELD (QT/HA)
Cereals	1,017.90	90.47	9,956.82	94.94	9.78
Teff	65.49	5.82	402.50	3.84	6.15
Barley	232.96	20.71	2,502.98	23.87	10.74
Wheat	50.34	4.47	356.72	3.40	7.09
Maize	570.43	50.70	5,660.93	53.98	9.92
Sorghum	76.29	6.78	824.61	7.86	10.81
Millet	**	**	**	**	**
Oats	18.62	1.65	185.93	1.77	9.99
Pulses	104.41	9.28	520.65	4.96	4.99
Horse Beans	**	**	**	**	**
Field Peas	23.25	2.07	97.22	.93	4.18
Haricot Beans	54.36	4.83	307.43	2.93	5.66
Chick Peas	5.43	.48	**	**	**
Lentils	18.24	1.62	71.47	.68	3.92
Vetch	**	**	2.46	.02	3.37
Others	2.79	.25	10.36	.10	3.71
Neug	1.41	.13	6.98	.07	4.95
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	1,125.09	100.00	10,487.83	100.00	9.32

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

FIG 6. ESTIMATES OF TOTAL AREA AND PRODUCTION UNDER SELECTED BELG CEREALS FOR PRIVATE PEASANT HOLDINGS IN ETHIOPIA, 1995/96 (1988 E.C.)

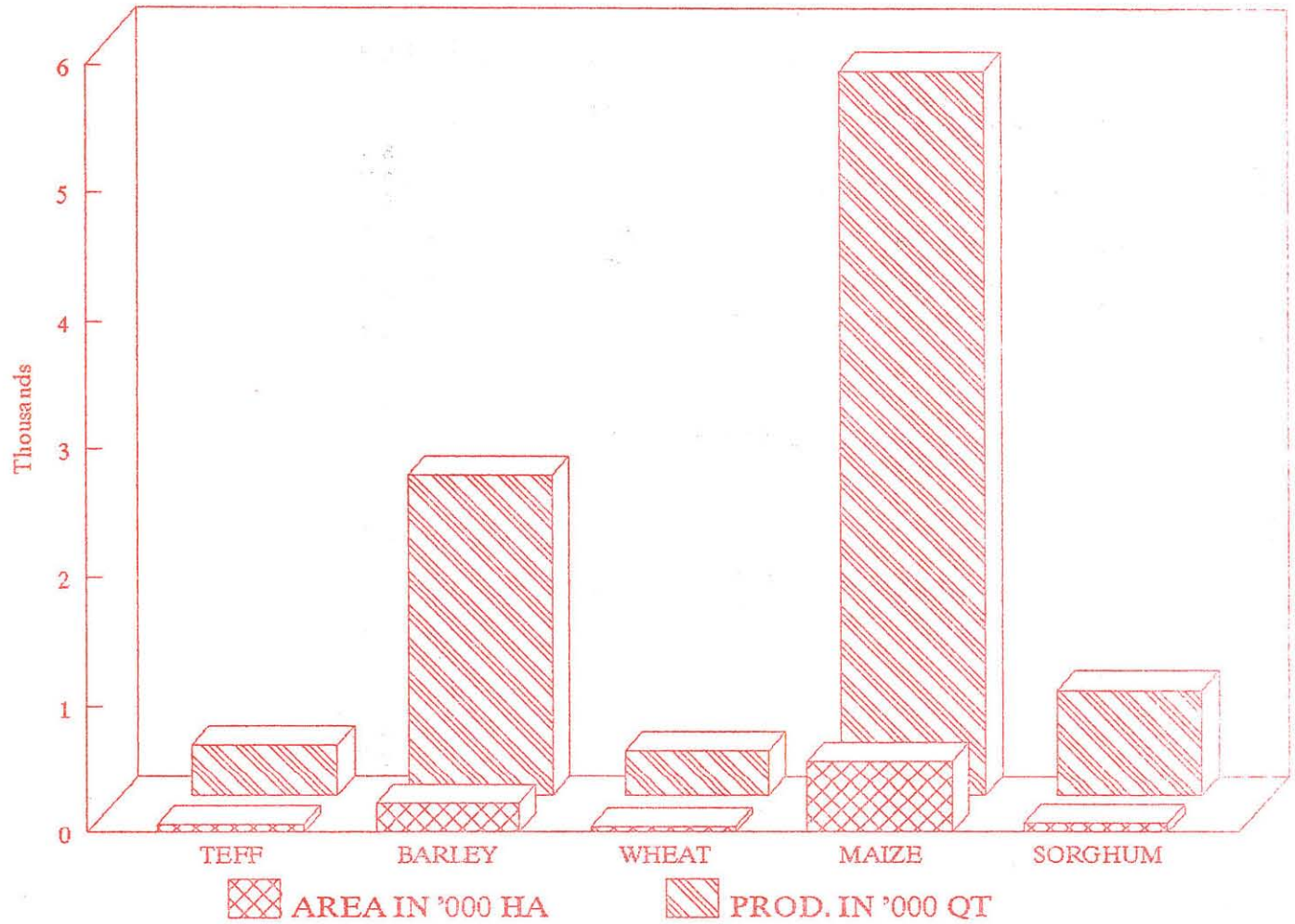


Table 4. Estimates of Area,Production,their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

TIGRAY

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	27.72	99.75	285.54	99.95	10.30
Teff	**	**	**	**	**
Barley	**	**	**	**	**
Wheat	-	-	-	-	-
Maize	2.13	7.66	38.95	13.63	18.29
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.07	.25	.13	.05	1.86
Horse Beans	-	-	-	-	-
Field Peas	**	**	**	**	**
Haricot Beans	-	-	-	-	-
Chick Peas	-	-	-	-	-
Lentils	**	**	-	-	-
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	27.79	100.00	285.67	100.00	10.28

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

Table 5. Estimates of Area,Production,their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

Afar

CROP TYPE	TOTAL AREA ('000 hectare)	TOTAL AREA %	TOTAL PRODUCTION ('000 quintal)	TOTAL PRODUCTION %	YIELD (QT/HA)
Cereals	4.15	75.18	12.32	61.66	2.97
Teff	3.92	71.01	**	**	**
Barley	-	-	-	-	-
Wheat	**	**	-	-	-
Maize	**	**	**	**	**
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	1.38	25.00	7.66	38.34	5.55
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	**	**	**
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	5.52	100.00	19.98	100.00	3.62

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

Table 6. Estimates of Area,Production,their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

AMHARA

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	117.32	79.23	1,425.52	91.59	12.15
Teff	20.22	13.65	173.41	11.14	8.58
Barley	75.36	50.89	1,008.41	64.79	13.38
Wheat	7.12	4.81	57.43	3.69	8.07
Maize	7.90	5.33	82.80	5.32	10.48
Sorghum	**	**	**	**	**
Millet	**	**	**	**	**
Oats	6.04	4.08	97.41	6.26	16.13
Pulses	29.71	20.06	126.26	8.11	4.25
Horse Beans	**	**	**	**	**
Field Peas	8.66	5.85	41.48	2.67	4.79
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	**	**	**
Lentils	14.71	9.93	57.67	3.71	3.92
Vetch	**	**	**	**	**
Others	1.05	.71	4.65	.30	4.43
Neug	**	**	**	**	**
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	148.08	100.00	1,556.44	100.00	10.51

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

Table 6.1 Estimates of Area,Production,their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

NORTH AND SOUTH GONDAR Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	1.15	100.00	13.06	100.00	11.36
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	1.15	100.00	13.06	100.00	11.36

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

Table 6.2 Estimates of Area,Production,their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

EAST, WEST GOJAM AND AGEWAWI Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	.23	100.00	2.50	100.00	10.87
Teff	-	-	-	-	-
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	**	**	2.50	100.00	10.87
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	.23	100.00	2.50	100.00	10.87

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

Table 6.3 Estimates of Area,Production,their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

NORTH WOLO AND WAGHAMRA Zone

CROP TYPE	TOTAL AREA ('000 hectare)	TOTAL AREA %	TOTAL PRODUCTION ('000 quintal)	TOTAL PRODUCTION %	YIELD (QT/HA)
Cereals	21.71	93.58	285.30	96.20	13.14
Teff	5.14	22.16	54.41	18.35	10.59
Barley	12.67	54.61	**	**	**
Wheat	**	**	**	**	**
Maize	3.10	13.36	19.03	6.42	6.14
Sorghum	**	**	**	**	**
Millet	**	**	**	**	**
Oats	**	**	**	**	**
Pulses	1.34	5.78	10.95	3.69	8.17
Horse Beans	-	-	-	-	-
Field Peas	**	**	**	**	**
Haricot Beans	-	-	-	-	-
Chick Peas	**	**	2.36	.80	3.75
Lentils	**	**	**	**	**
Vetch	**	**	**	**	**
Others	.15	.65	.30	.10	2.00
Neug	**	**	**	**	**
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	23.20	100.00	296.56	100.00	12.78

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

Table 6.4 Estimates of Area,Production,their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

SOUTH WOLO, OROMIA AND NORTH SHEWA Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	94.23	76.30	1,124.66	90.38	11.94
Teff	15.07	12.20	119.01	9.56	7.90
Barley	62.54	50.64	800.60	64.34	12.80
Wheat	7.01	5.68	56.30	4.52	8.03
Maize	**	**	**	**	14.16
Sorghum	**	**	**	**	4.38
Millet	-	-	-	-	-
Oats	5.69	4.61	96.56	7.76	16.97
Pulses	28.37	22.97	115.31	9.27	4.06
Horse Beans	**	**	**	**	**
Field Peas	8.64	7.00	41.30	3.32	4.78
Haricot Beans	**	**	**	**	**
Chick Peas	4.10	3.32	**	**	**
Lentils	14.06	11.38	50.34	4.05	3.58
Vetch	-	-	-	-	-
Others	.90	.73	4.35	.35	4.83
Neug	**	**	**	**	**
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	123.50	100.00	1,244.32	100.00	10.08

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

Table 7. Estimates of Area,Production,their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

OROMIA

CROP TYPE	TOTAL AREA ('000 hectare)	TOTAL AREA %	TOTAL PRODUCTION ('000 quintal)	TOTAL PRODUCTION %	YIELD (QT/HA)
Cereals	483.08	92.79	4,803.20	95.00	9.94
Teff	22.12	4.25	126.75	2.51	5.73
Barley	141.52	27.18	1,381.88	27.33	9.76
Wheat	41.39	7.95	276.36	5.47	6.68
Maize	259.17	49.78	2,868.12	56.73	11.07
Sorghum	**	**	**	**	**
Millet	**	**	**	**	**
Oats	**	**	88.52	1.75	7.04
Pulses	35.78	6.87	247.01	4.89	6.90
Horse Beans	**	**	**	**	**
Field Peas	**	**	47.52	.94	3.53
Haricot Beans	16.29	3.13	168.81	3.34	10.36
Chick Peas	-	-	-	-	-
Lentils	3.51	.67	13.80	.27	3.93
Vetch	**	**	1.40	.03	2.06
Others	1.73	.33	5.71	.11	3.30
Neug	**	**	**	**	**
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	520.59	100.00	5,055.92	100.00	9.71

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

Table 7.1 Estimates of Area,Production,their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

EAST AND WEST WELEGA Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	36.30	92.82	448.13	92.08	12.35
Teff	**	**	**	**	**
Barley	**	**	**	**	**
Wheat	-	-	-	-	
Maize	35.02	89.54	434.48	89.27	12.41
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	2.82	7.21	38.57	7.92	13.68
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	2.82	7.21	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	39.11	100.00	486.69	100.00	12.44

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

Table 7.2 Estimates of Area,Production,their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

ILUBABOR AND JIMA Zone

CROP TYPE	TOTAL AREA ('000 hectare)	TOTAL AREA %	TOTAL PRODUCTION ('000 quintal)	TOTAL PRODUCTION %	YIELD (QT/HA)
Cereals	60.04	94.09	816.48	94.88	13.60
Teff	**	**	**	**	**
Barley	**	**	**	**	**
Wheat	-	-	-	-	-
Maize	52.80	82.75	768.74	89.33	14.56
Sorghum	-	-	**	**	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	3.76	5.89	44.08	5.12	11.72
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	3.76	5.89	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	63.81	100.00	860.56	100.00	13.49

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

Table 7.3 Estimates of Area,Production,their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

NORTH AND WEST SHEWA Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	48.39	92.70	251.82	94.42	5.20
Teff	-	-	-	-	-
Barley	39.25	75.19	182.18	68.31	4.64
Wheat	.82	1.57	**	**	**
Maize	**	**	**	24.68	7.91
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	3.81	7.30	14.87	5.58	3.90
Horse Beans	-	-	-	-	-
Field Peas	**	**	**	**	**
Haricot Beans	-	-	-	-	-
Chick Peas	-	-	-	-	-
Lentils	**	**	**	**	**
Vetch	**	**	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	52.20	100.00	266.69	100.00	5.11

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

Table 7.4 Estimates of Area,Production,their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

EAST SHEWA, ARSI, BALE AND BORENA Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	294.35	92.31	2,636.98	95.33	8.96
Teff	21.76	6.82	122.77	4.44	5.64
Barley	78.46	24.60	883.24	31.93	11.26
Wheat	40.01	12.55	264.95	9.58	6.62
Maize	137.11	43.00	**	**	**
Sorghum	**	**	**	**	**
Millet	**	**	10.06	.36	8.67
Oats	**	**	70.79	2.56	6.33
Pulses	22.80	7.15	123.52	4.47	5.42
Horse Beans	**	**	**	**	**
Field Peas	**	**	42.05	1.52	3.39
Haricot Beans	**	**	**	**	**
Chick Peas	-	-	-	-	-
Lentils	1.11	.35	**	**	**
Vetch	**	**	**	**	**
Others	1.73	.54	5.71	.21	3.30
Neug	**	**	**	**	**
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	318.88	100.00	2,766.21	100.00	8.67

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

Table 7.5 Estimates of Area,Production,their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

EAST AND WEST HARERGE Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	44.00	94.44	649.79	96.16	14.77
Teff	-	-	-	-	-
Barley	15.67	33.63	259.10	38.34	16.53
Wheat	**	**	**	**	**
Maize	25.93	55.66	360.74	53.38	13.91
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	1.39	2.98	17.73	2.62	12.76
Pulses	2.59	5.56	25.98	3.84	10.03
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	2.42	5.19	25.73	3.81	10.63
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	**	**	**	**	**
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	46.59	100.00	675.76	100.00	14.50

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

Table 8. Estimates of Area,Production,their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

SOMALE

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	46.11	100.00	303.59	100.00	6.58
Teff	-	-	-	-	-
Barley	**	**	**	**	**
Wheat	**	**	**	**	**
Maize	**	**	262.28	86.39	**
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	46.11	100.00	303.59	100.00	6.58

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

Table 9. Estimates of Area, Production, their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

BENSHANGUL GUMEZ

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	12.09	100.00	64.87	100.00	5.37
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	12.09	100.00	64.87	100.00	5.37

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

Table 10. Estimates of Area,Production,their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

(S.N.N.P.R)

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	320.34	89.69	3,045.28	95.63	9.51
Teff	**	**	**	**	**
Barley	15.00	4.20	106.98	3.36	7.13
Wheat	**	**	**	**	**
Maize	242.04	67.76	2,327.24	73.08	9.62
Sorghum	**	**	**	**	**
Millet	**	**	**	**	**
Oats	-	-	-	-	-
Pulses	36.83	10.31	139.07	4.37	3.78
Horse Beans	**	**	**	**	**
Field Peas	**	**	**	**	**
Haricot Beans	35.28	9.88	130.39	4.09	3.70
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	357.18	100.00	3,184.35	100.00	8.92

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

Table 10.1 Estimates of Area,Production,their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

YEM, KEFICHO, MAJI, SHEKICHO AND BENCHI Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	103.97	84.87	959.46	98.21	9.23
Teff	-	-	-	-	-
Barley	**	**	**	**	**
Wheat	-	-	-	-	-
Maize	101.43	82.79	931.58	95.35	9.18
Sorghum	-	-	-	-	-
Millet	**	**	**	**	**
Oats	-	-	-	-	-
Pulses	18.54	15.13	17.50	1.79	.94
Horse Beans	**	**	**	**	**
Field Peas	-	-	-	-	-
Haricot Beans	**	**	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	122.51	100.00	976.96	100.00	7.97

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

Table 10.2 Estimates of Area,Production,their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

NORTH AND SOUTH OMO, GARDULA AND KONSO Zone

CROP TYPE	TOTAL AREA ('000 hectare)	TOTAL AREA %	TOTAL PRODUCTION ('000 quintal)	TOTAL PRODUCTION %	YIELD (QT/HA)
Cereals	176.06	92.89	1,707.57	95.73	9.70
Teff	**	**	**	**	**
Barley	**	**	**	**	**
Wheat	**	**	-	-	-
Maize	119.51	63.05	1,129.65	63.33	9.45
Sorghum	**	**	**	**	**
Millet	**	**	**	**	**
Oats	-	-	-	-	-
Pulses	13.47	7.11	76.14	4.27	5.65
Horse Beans	**	**	**	**	**
Field Peas	**	**	**	**	**
Haricot Beans	11.96	6.31	67.69	3.79	5.66
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	189.54	100.00	1,783.71	100.00	9.41

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

Table 10.3 Estimates of Area,Production,their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

HADIYA, KEMBATA AND GURAGE Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	13.23	93.70	164.83	93.00	12.46
Teff	**	**	**	**	**
Barley	6.31	44.69	52.34	29.53	8.29
Wheat	-	-	-	-	-
Maize	6.91	48.94	108.26	61.08	15.67
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.89	6.30	12.41	7.00	13.94
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	**	**	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	14.12	100.00	177.24	100.00	12.55

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

Table 10.4 Estimates of Area,Production,their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

SIDAMA, GEDIO, BURJI AND AMARO Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	27.08	87.33	213.42	86.60	7.88
Teff	**	**	**	**	**
Barley	**	**	**	**	**
Wheat	**	**	**	**	**
Maize	14.19	45.76	157.74	64.01	11.12
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	3.93	12.67	33.02	13.40	8.40
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	3.93	12.67	33.02	13.40	8.40
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	31.01	100.00	246.44	100.00	7.95

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

Table 11. Estimates of Area,Production,their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

GAMBELA

CROP TYPE	TOTAL AREA ('000 hectare)	TOTAL AREA %	TOTAL PRODUCTION ('000 quintal)	TOTAL PRODUCTION %	YIELD (QT/HA)
Cereals	6.59	100.00	13.95	100.00	2.12
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	6.59	100.00	13.95	100.00	2.12

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

Table 12. Estimates of Area,Production,their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

HARARI

CROP TYPE	TOTAL AREA ('000 hectare)	TOTAL AREA %	TOTAL PRODUCTION ('000 quintal)	TOTAL PRODUCTION %	YIELD (QT/HA)
Cereals	.01	1.56	.01	1.89	1.00
Teff	-	-	-	-	-
Barley	**	**	**	**	**
Wheat	-	-	-	-	-
Maize	-	-	-	-	-
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.64	100.00	.53	100.00	.83
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	.64	100.00	.53	100.00	.83
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	-	-	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	.64	100.00	.53	100.00	.83

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

Table 13. Estimates of Area,Production,their Percentage Distribution and Yield for 1995/96(1988 E.C.)Belg season Crops for Private Peasant Holdings

DIRE DAWA

CROP TYPE	TOTAL AREA ('000 hectare)	TOTAL AREA %	TOTAL PRODUCTION ('000 quintal)	TOTAL PRODUCTION %	YIELD (QT/HA)
Cereals	.49	100.00	2.53	100.00	5.16
Teff	-	-	-	-	-
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	.25	51.02	.82	32.41	3.28
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	.49	100.00	2.53	100.00	5.16

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

APPENDEX I

SURVEY QUESTIONAIRES

APPENDIX I

FORM ASS-88/7A

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

JOB	1	2	3
ID	1	8	5

PART 1 – IDENTIFICATION PARTICULARS

1	2	3	4	5	6	7	8	9	10	11	12	13	14
REGION	ZONE	WEREDA	SUPERVISION AREA	FARMERS' ASSOCIATION	ENUMERATION AREA	HOSEHOLD ID NUMBER (ASS*88/1 prt2 col1)	HOLDER ID NUMBER (ASS*88/1 prt2 col3)	HOLDER'S NAME	SEX	AGE	EDUC. STATUS (grade compl)	NUMBER OF MEMBERS OF HOLDR'S HH.	TYPE OF AGRICULT. CROP=1 LV.STO=2 BOTH=3
4 5	6 7	8 9	10 11	12 13 14	15 16	17 18 19 20	21 22		23 24 25		26	27 28	29

PART 2– LIST OF FIELDS AND AGRICULTURAL PRACTICES (1988 E.C. BELG SEASON)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
LINE NO.	SERIAL NO.OF PARCEL	SERIAL NO.OF FIELD	CROP NAME TEMPORARY	CODE	TYPE OF SEED USE IMPRVD=1 INDIGN.=2	USE OF IRRIG. YES=1 NO=2	USE OF FERTILZERS: USE YES=1 NO=2	IF YES NATURL=1 COMM=2 BOTH=3	IF COMMERCIAL FE.T.: UREA=1 DAP=2 BOTH=3	QUANTITY USED: KG. / GRAMS	USE OF PEST-CIDES YES=1 NO=2	WAS CROP DAMAGED ? YES=1 NO=2	IF YES REASON OF DAMAGE	CODE	PERCENT DAMAGED	REMARKS
30 31	32 33	34 35		36 37	38	39	40	41	42	43 44 45 46 47 48	49	50		51 52	53 54	
01																
02																
03																
04																
05																
06																
07																
08																
09																
10																

NOTES ON COL. 12 ABOVE

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

NOTE: THIS FORM SHOULD BE FILLED OUT ONLY FOR TEMPORARY PURE STAND CROPS AND TEMPORARY WITH OTHER MIXED STAND CROPS.

JOB ID	1	2	3
	1	6	4

PART 3 – AREA AND PRODUCTION (1988 E.C. BELG SEASON)

1	2		3	4	5	6	7	8	9	10	11	12	13
SERIAL NO. OF			CROP NAME		AREA IN				PRODUCTION IN				REMARKS
					LOCAL UNITS			HECTARES	LOCAL UNITS			QUINTALS	
PARCE	FIELD			CODE	NAME	CODE	AREA		NAME	CODE	PRODUCTION		

REMARKS

	NAME	SIGNATURE	DATE
ENUMERATOR			
SUPERVISOR			
REGIONAL SUPERVISOR			

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

FORM ASS–88/7B

JOB ID	1	2	3
	1	8	6

PART 1 – IDENTIFICATION PARTICULARS

1	2	3	4	5	6	7	8	9	10	11	12	13	14
REGION	ZONE	WEREDA	SUPERVISION AREA	FARMERS' ASSOCIATION	ENUMERATION AREA	HOSEHOLD ID NUMBER (ASS*88/1 prt2 col1)	HOLDER ID NUMBER (ASS*88/1 prt2 col3)	HOLDER'S NAME	SEX	AGE	EDUC. STATUS (grade compl)	NUMBER OF MEMBERS OF HOLDR'S HH.	TYPE OF AGRICULT. CROP=1 LV.STO=2 BOTH=3
4 5	6 7	8 9	10 11	12 13 14	15 16	17 18 19 20	21 22		23 24 25		26	27 28	29

PART 2– QUANTITY OF IMPROVED SEED AND PRICE(1988 E.C BELG SEASON)

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

NOTES ON COL. 12 ABOVE

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

JOB ID	1	2	3
	1	8	7

PART 3– QUANTITY OF FERTILIZERS AND PRICE (1988 E.C. BELG SEASON)

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

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

FORM ASS–88/7B

JOB ID	1	2	3
	1	8	6

PART 1 – IDENTIFICATION PARTICULARS

1	2	3	4	5	6	7	8	9	10	11	12	13	14
REGION	ZONE	WEREDA	SUPERVISION AREA	FARMERS' ASSOCIATION	ENUMERATION AREA	HOSEHOLD ID NUMBER (ASS*88/1 prt2 col1)	HOLDER ID NUMBER (ASS*88/1 prt2 col3)	HOLDER'S NAME	SEX	AGE	EDUC. STATUS (grade compl)	NUMBER OF MEMBERS OF HOLDR'S HH.	TYPE OF AGRICULT. CROP=1 LV.STO=2 BOTH=3
4 5	6 7	8 9	10 11	12 13 14	15 16	17 18 19 20	21 22		23 24 25		26	27 28	29

PART 2 – QUANTITY OF IMPROVED SEED AND PRICE(1988 E.C BELG SEASON)

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

NOTES ON COL. 12 ABOVE

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

JOB ID	1	2	3
	1	8	7

PART 3 – QUANTITY OF FERTILIZERS AND PRICE (1988 E.C. BELG SEASON)

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

JOB ID	1	2	3
	1	8	8

PART 4– QUANTITY OF PLANT PROTECTION CHEMICALS AND PRICE (1988 E.C. BELG SEASON)

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

REMARKS

	NAME	SIGNATURE	DATE
ENUMERATOR			
SUPERVISOR			
REGIONAL SUPERVISOR			

APPENDIX II

ESTIMATION PROCEDURES OF TOTAL AND SAMPLING ERRORS

APPENDIX II

ESTIMATION PROCEDURES OF TOTAL AND SAMPLING ERRORS.

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

Note:- All information on belg season agricultural activities are collected using subjective methods, by interviewing each holder in the sampled 25 agricultural households. Hence the data on area and production for major belg season crops were usually reported in local units. Therefore one has to note that before applying the estimation procedures defined here below, the reported area and production of a specific crop in local units of each field has to be converted in to standard units using conversion equivalents.

1. for Estimating total Area of land under specific crop

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

in which

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

is the weight

where

- h represents the stratum.
- n_h is the total number of EAs selected in h^{th} stratum.
- N_h is the measure of size of the hth stratum obtained from the sampling frame.
- N_{hi} is the measure of size of the ith sample EA in the hth stratum obtained from the sampling frame.

M_{hi} is the total number of agricultural households of the ith sample EA in the hth stratum obtained from households listing of the survey.

m_{hi} is number of sampled agricultural households of the ith sample EA in the hth stratum.

a_{hi} is the sample total of area values in the ith EA in the hth stratum for the specific agricultural input for the specific crop.

$\hat{A}_h$ is estimate of total area under specific crop where a certain agricultural input was used in the hth stratum.

2. ***For Estimating level of production***

$$\hat{p}_h = \sum_{i=1}^{n_h} w_{hi} p_{hi}$$

in which

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

is the weight given above.

where

$\hat{p}_h$ is estimate of total production of a specific crop land in the hth stratum.

p_{hi} is the sample total of production of a specific crop in the ith EA in the hth stratum.

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

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

4. Estimating Sampling Variance

Sampling variance of estimate of stratum total of area for a specific crop where a certain agricultural input used and quantity of a certain fertilizer are estimated by the following formulas respectively.

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

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

5. Estimating Coefficient of Variation

Coefficient of Variation (CV) of estimate of stratum total area and quantity are given by:

$$CV(\hat{A}h) = \frac{\sqrt{var(\hat{A}h)}}{\hat{A}h} x100\%$$

$$CV(\hat{Q}h) = \frac{\sqrt{VAR(\hat{A}h)}}{\hat{Q}h} X100\%$$

Regional or National Estimates of the total Characteristic and Sampling variance are obtained by aggregating the respective stratum totals.

APPENDIX III

NUMBER OF HOUSEHOLDS REPORTING 1995/96(1988 E.C.) BELG CROP PRODUTION

APPENDIX III NUMBER OF EAs AND HOUSEHOLDS REPORTING 1995/96 (1988 E.C.) BELG CROP PRODUCTION.

REGION	REPORTING LEVEL	NUMBER OF EAs COVERED	NUMBER OF EAs PRACTICING BELG	NUMBER OF HOUSEHOLDS COVERED	NUMBER OF HOUSEHOLDS PRACTICING BELG
TIGRAY	TIGRAY	32	8	784	192
AFAR	AFAR	13	8	313	188
AMHARA	N & S. GONDER	36	2		49
	AGEWAWI, E & W. GOJAM	40	2	996	50
	N.WOLLO & WAGHAMRA	34	14	847	358
	S. WOLLO, OROMIA & N. SHEWA	40	27	989	699
	TOTAL	150	45	2832	1156
OROMIA	E & W. WELLEGA	40	28	995	702
	ILLUBABOR & JIMA	40	30	985	742
	N & W. SHEWA	39	14	962	351
	E. SHEWA, ARSI, BALE & BORENA	40	23	986	568
	E & W. HARARGHE	40	35	991	873
	TOTAL	199	130	4919	3236
SOMALE	SOMALE	15	9	336	211
BENSHANGULE – GUMEZ	BENESHANGULE – GUMEZ	15	6	373	150
S.N.N.P.R.	YEM,KEFICHO,MAJI,SHEKICHO & BENCH	35	31	858	744
	N & S.OMO,DERASHE & KONSO	35	33	864	836
	HADIYA, KEMBATA & GURAGE	35	13	873	329
	SIDAMA, GEDIO,BURJI & AMARO	35	17	885	416
	TOTAL	140	94	3480	2325
GAMBELA	GAMBELA	15	6	348	136
HARARI	HARARI	10	5	244	120
ADDIS ABABA	ADDIS ABABA	10	–	250	-
DIRE DAWA	DIRE DAWA	8	5	199	125
	GRAND TOTAL	607	316	14078	7839

APPENDIX IV

STANDARD ERROR AND COEFFICIENT OF VARIATION FOR ESTIMATES.

APPENDIX IV STANDARED ERROR AND COEFFICIENT OF VARIATION FOR ESTIMATES.

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION FOR MAJOR BELG SEASON CROPS, NATIONAL.
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	65.49	14.52	22.18	402.52	96.12	23.88
BARELY	232.96	28.91	12.41	2502.98	348.84	13.94
WHEAT	50.34	17.05	33.86	356.72	110.78	31.06
MAIZE	570.43	77.88	13.65	5660.93	619.36	10.94
SORGHUM	76.29	33.56	43.99	824.61	367.79	44.60
MILLET	**	**	**	**	**	**
OATS	18.62	6.85	36.81	185.93	49.24	26.48
HORSEBEANS	**	**	**	**	**	**
FIELDPEAS	23.25	8.03	34.55	97.22	26.12	26.87
HARICOTBEANS	54.36	16.35	30.08	307.43	62.18	20.22
CHICKPEAS	5.43	2.43	44.84	**	**	**
LENTILS	18.24	5.05	27.69	71.47	20.33	28.45
VECTH	**	**	**	2.46	1.48	45.82
NEUG	1.41	0.64	45.19	**	**	**
LINSEED	**	**	**	**	**	**
FENUGREEK	–	–	–	–	–	–
RAPESEED	–	–	–	–	–	–

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

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	2.13	0.98	46.17	38.95	18.92	48.58
SORGHUM	**	**	**	**	**	**
MILLET	–	–	–	–	–	–
OATS	–	–	–	–	–	–
HORSEBEANS	–	–	–	–	–	–
FIELDPEAS	**	**	**	**	**	**
HARICOTBEANS	–	–	–	–	–	–
CHICKPEAS	–	–	–	–	–	–
LENTILS	**	**	**	–	–	–
VECTH	–	–	–	–	–	–
NEUG	–	–	–	–	–	–
LINSEED	–	–	–	–	–	–
FENUGREEK	–	–	–	–	–	–
RAPESEED	–	–	–	–	–	–

Abbriviations.
S.E. = Standared Error
C.V. = Coefficient of Variration
– Insignificant or not available

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

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
TEFF	3.92	1.26	32.00	**	**	**
BARELY	–	–	–	–	–	–
WHEAT	**	**	**	–	–	–
MAIZE	**	**	**	**	**	**
SORGHUM	**	**	**	**	**	**
MILLET	–	–	–	–	–	–
OATS	–	–	–	–	–	–
HORSEBEANS	–	–	–	–	–	–
FIELDPEAS	–	–	–	–	–	–
HARICOTBEANS	**	**	**	**	**	**
CHICKPEAS	**	**	**	**	**	**
LENTILS	–	–	–	–	–	–
VECTH	–	–	–	–	–	–
NEUG	–	–	–	–	–	–
LINSEED	–	–	–	–	–	–
FENUGREEK	–	–	–	–	–	–
RAPESEED	–	–	–	–	–	–

Abbriviations.
S.E. = Standared Error
C.V. = Coefficient of Variration
– Insignificant or not available

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

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
TEFF	20.22	5.51	27.26	173.41	47.62	27.46
BARELY	75.36	18.43	24.45	1008.41	263.66	26.15
WHEAT	7.12	2.63	36.93	57.43	19.45	33.87
MAIZE	7.90	2.56	32.38	82.80	32.01	38.66
SORGHUM	**	**	**	**	**	**
MILLET	**	**	**	**	**	**
OATS	6.04	1.88	31.08	97.41	38.28	39.30
HORSEBEANS	**	**	**	**	**	**
FIELDPEAS	8.66	2.82	32.56	41.48	14.67	35.37
HARICOTBEANS	**	**	**	**	**	**
CHICKPEAS	**	**	**	**	**	**
LENTILS	14.71	4.85	32.95	57.67	19.19	33.28
VECTH	**	**	**	**	**	**
NEUG	**	**	**	**	**	**
LINSEED	**	**	**	**	**	**
FENUGREEK	–	–	–	–	–	–
RAPESEED	–	–	–	–	–	–

Abbriviations.
S.E. = Standared Error
C.V. = Coefficient of Variration
– Insignificant or not available

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

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
TEFF	22.12	8.92	40.33	126.75	57.56	45.41
BARELY	141.52	21.81	15.41	1381.88	226.44	16.39
WHEAT	41.39	16.80	40.59	276.36	107.90	39.04
MAIZE	259.17	62.67	24.18	2868.12	510.68	17.81
SORGHUM	**	**	**	**	**	**
MILLET	**	**	**	**	**	**
OATS	**	**	**	88.52	30.97	34.99
HORSEBEANS	**	**	**	**	**	**
FILDPEAS	**	**	**	47.52	20.91	44.00
HARICOTBEANS	16.29	4.82	29.60	168.81	54.05	32.02
CHICKPEAS	–	–	–	–	–	–
LENTILS	3.51	1.42	40.48	13.80	6.70	48.60
VETCH	**	**	**	1.40	1.03	47.48
NEUG	**	**	**	**	**	**
LINSEED	**	**	**	**	**	**
FENUGREEK	–	–	–	–	–	–
RAPESEED	–	–	–	–	–	–

Abbriviations.
S.E. = Standared Error
C.V. = Coefficient of Variration
– Insignificant or not available

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

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	**	**	**	262.28	122.09	46.55
SORGHUM	**	**	**	**	**	**
MILLET	–	–	–	–	–	–
OATS	–	–	–	–	–	–
HORSEBEANS	–	–	–	–	–	–
FIELDPEAS	–	–	–	–	–	–
HARICOTBEANS	–	–	–	–	–	–
CHICKPEAS	–	–	–	–	–	–
LENTILS	–	–	–	–	–	–
VECTH	–	–	–	–	–	–
NEUG	–	–	–	–	–	–
LINSEED	–	–	–	–	–	–
FENUGREEK	–	–	–	–	–	–
RAPESEED	–	–	–	–	–	–

Abbriviations.
S.E. = Standared Error
C.V. = Coefficient of Variration
– Insignificant or not available

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

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	**	**	**	**	**	**
SORGHUM	–	–	–	–	–	–
MILLET	–	–	–	–	–	–
OATS	–	–	–	–	–	–
HORSEBEANS	–	–	–	–	–	–
FIELDPEAS	–	–	–	–	–	–
HARICOTBEANS	–	–	–	–	–	–
CHICKPEAS	–	–	–	–	–	–
LENTILS	–	–	–	–	–	–
VECTH	–	–	–	–	–	–
NEUG	–	–	–	–	–	–
LINSEED	–	–	–	–	–	–
FENUGREEK	–	–	–	–	–	–
RAPESEED	–	–	–	–	–	–

Abbriviations.
S.E. = Standared Error
C.V. = Coefficient of Variration
– Insignificant or not available

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION FOR MAJOR BELG SEASON CROPS, 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	**	**	**	**	**	**
BARELY	15.00	4.44	29.60	106.98	29.73	27.79
WHEAT	**	**	**	**	**	**
MAIZE	242.04	37.04	15.30	2327.24	321.28	13.80
SORGHUM	**	**	**	**	**	**
MILLET	**	**	**	**	**	**
OATS	–	–	–	–	–	–
HORSEBEANS	**	**	**	**	**	**
FIELDPEAS	**	**	**	**	**	**
HARICOTBEANS	35.28	15.57	44.14	130.39	29.88	22.91
CHICKPEAS	–	–	–	–	–	–
LENTILS	–	–	–	–	–	–
VECTH	–	–	–	–	–	–
NEUG	–	–	–	–	–	–
LINSEED	–	–	–	–	–	–
FENUGREEK	–	–	–	–	–	–
RAPESEED	–	–	–	–	–	–

Abbriviations.
S.E. = Standared Error
C.V. = Coefficient of Variration
– Insignificant or not available

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

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	**	**	**	**	**	**
SORGHUM	**	**	**	**	**	**
MILLET	–	–	–	–	–	–
OATS	–	–	–	–	–	–
HORSEBEANS	–	–	–	–	–	–
FIELDPEAS	–	–	–	–	–	–
HARICOTBEANS	–	–	–	–	–	–
CHICKPEAS	–	–	–	–	–	–
LENTILS	–	–	–	–	–	–
VECTH	–	–	–	–	–	–
NEUG	–	–	–	–	–	–
LINSEED	–	–	–	–	–	–
FENUGREEK	–	–	–	–	–	–
RAPESEED	–	–	–	–	–	–

Abbriviations.
S.E. = Standared Error
C.V. = Coefficient of Variration
– Insignificant or not available

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

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	–	–	–	–	–	–
SORGHUM	–	–	–	–	–	–
MILLET	–	–	–	–	–	–
OATS	–	–	–	–	–	–
HORSEBEANS	–	–	–	–	–	–
FIELDPEAS	–	–	–	–	–	–
HARICOTBEANS	0.64	0.32	49.44	0.53	0.21	39.63
CHICKPEAS	–	–	–	–	–	–
LENTILS	–	–	–	–	–	–
VECTH	–	–	–	–	–	–
NEUG	–	–	–	–	–	–
LINSEED	–	–	–	–	–	–
FENUGREEK	–	–	–	–	–	–
RAPESEED	–	–	–	–	–	–

Abbriviations.
S.E. = Standared Error
C.V. = Coefficient of Variration
– Insignificant or not available

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

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	0.25	0.12	46.58	0.82	0.39	47.87
SORGHUM	**	**	**	**	**	**
MILLET	–	–	–	–	–	–
OATS	–	–	–	–	–	–
HORSEBEANS	–	–	–	–	–	–
FIELDPEAS	–	–	–	–	–	–
HARICOTBEANS	–	–	–	–	–	–
CHICKPEAS	–	–	–	–	–	–
LENTILS	–	–	–	–	–	–
VECTH	–	–	–	–	–	–
NEUG	–	–	–	–	–	–
LINSEED	–	–	–	–	–	–
FENUGREEK	–	–	–	–	–	–
RAPESEED	–	–	–	–	–	–

Abbriviations.
S.E. = Standared Error
C.V. = Coefficient of Variration
– Insignificant or not available

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