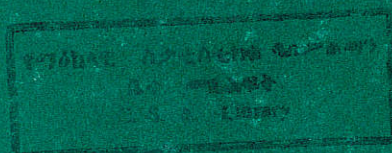


THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

CENTRAL STATISTICAL AUTHORITY



AGRICULTURAL SAMPLE SURVEY
1996/97 (1989 E.C.)

REPORT ON

**FARM MANAGEMENT PRACTICES
OF BELG SEASON CROPS**

FOR

1996/97 (1989 E.C.)
(Private Peasant Holdings)

VOLUME VII

Addis Ababa
December, 1998

171

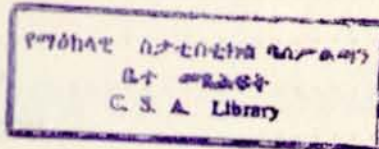
STATISTICAL BULLETIN

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19/07/90

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ABBREVIATIONS

CSA	-	CENTRAL STATISTICAL AUTHORITY
EC	-	ETHIOPIAN CALENDAR
CV	-	COEFFICIENT OF VARIATION
SE	-	STANDARD ERROR
HA	-	HECTARE
QT	-	QUINTAL
SNNPR	-	SOUTHERN NATION, NATIONALITIES AND PEOPLES REGION

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1. INTRODUCTION

Agriculture is the backbone of the Ethiopian economy. The country's economic development highly depends on the development of the agricultural sector. Farmers' interest in the adoption and acceptance of new innovations and modern agricultural techniques and technologies, such as use of fertilizers, irrigation, improved seeds and pesticides, do have influencing impact on the development of the agricultural sector as a whole.

The extent of adopting modern agricultural practices, such as utilization of fertilizer, irrigation, pesticides and improved seeds, by the traditional peasant farmers can be considered as important indicators for estimating the rate of adoption of modern technologies.

This report presents quantitative information about the use of modern agricultural inputs for belg season crops of 1996/97 (1989 E.C.) of the private peasant holdings for the country, regions and group of zones as obtained from the results of the belg agricultural sample survey conducted in May 1997 by the Central Statistical Authority (CSA). The report is subdivided into three sections;

Section 1. deals with estimates of total area under different farm management practices, total fertilizer applied area by type of fertilizer and quantity of commercial fertilizer in 1996/97 (1989 E.C.) belg season.

Section 2. deals with estimates of total area under belg season crops and the distribution of area under different farm management practices by area size groups in 1996/97 (1989 E.C.) belg season.

Section 3. deals with estimates of total number of belg crop producing holders reporting the use of improved farm management practices by age in 1996/97(1989 E.C.) belg season.

2. OBJECTIVE OF THE SURVEY

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

In particular, the objectives of the survey are to estimate the total cultivated land; total production and yield of major crops per hectare; area under different land uses; quantity and cost of agricultural inputs by type for meher and belg seasons; 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 zones levels.

3. COVERAGE AND CONTENT

The 1996/97 (1989 E.C.) annual agricultural sample survey was designed to cover **sedentary rural** agricultural population in all regions of the country. A total of 55 zones and 379 weredas were covered in the survey. The areal coverage of the survey is given in page 3.

4. SAMPLE DESIGN

A two-stage stratified sample design was used for the 1996/97 (1989 E.C.) Annual Agricultural Sample survey. In three regions, namely, in Amhara, Oromiya and Southern nations, Nationalities and 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.

**AREAL COVERAGE OF THE 1996/97 (1989 E.C.) AGRICULTURAL
SAMPLE SURVEY ¹**

Region	NUMBER OF ZONES		NUMBER OF WEREDAS	
	PLANNED TO BE COVERED IN THE SURVEY	COVERED IN THE SURVEY	PLANNED TO BE COVERED IN THE SURVEY	COVERED IN THE SURVEY
TIGRAY ¹	5	4	35	34
AFAR ²	5	2	6	4
AMHARA	10	10	95	95
OROMIYA	12	12	148	148
SOMALIE ³	9	3	7	6
BENSHANGUL-GUMEZ	3	2	7	7
S.N.N.P.R	16	16	68	68
GAMBELA	1	1	5	4
HARARI	1	1	1	1
ADDIS ABABA ⁴	6	2	5	5
DIRE DAWA	1	1	1	1
TOTAL	69	55	379	376

Notes

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

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

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 proportionality 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 I and II** .

5. FIELD ORGANIZATION.

CSA's Branch Statistical Office Heads, field supervisors and enumerators were fully involved in the survey. More over, experts from head office, other support staff and drivers were involved in the operation.

Sets of necessary survey equipment (questionnaires for both seasons, such as, ropes, compasses, protractors, rulers, iron poles, measuring tapes, balance scales, etc. for Meher) were made available to the enumerators. In order to facilitate the field work 68 vehicles were put on operation during the field work of the agricultural sample survey.

6. TRAINING OF FIELD STAFF

The training program for the field staff was carried out in two stages. In the first stage, experts from the head office, Statistical Branch 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 field supervisors and enumerators for 10 days in all the 15 Statistical 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.

7. METHOD OF DATA COLLECTION

Information on agricultural practices (use of fertilizer, use of pesticides, use of improved seeds and use of irrigation), area and production of major belg season crops was collected subjectively by interviewing the holders in the sampled households.

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, fast 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 time 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 also not to overlook or miss agricultural practices performed all the year round, either through irrigation, use of soil moisture 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.

8. EDITING, CODING AND VERIFICATION

Apart from giving an intensive training to the editors and coders one regular 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 supervisors/verifiers on 100% basis.

9. DATA ENTRY, CLEANING AND PROCESSING

Data were entered in personal computers using IMPS (Integrated Microcomputer Processing System) software. Then, the data entered were checked and cleaned by regular staff. Finally, the data processing activity was also done by personal computers(PCs) to produce results which were indicated in the tabulation plan.

10. 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 the help of others, operates land or raises livestock in his own right, i.e. the person who decides on what, when, where and how to grow crops or raise livestock and has 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.

Area size groups: In this report area size group is determined by total area under major belg season crops which is mainly land area under temporary crops.

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).

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

Irrigated area: refers to the area of land purposely and actually provided with water, other than by rain, for improving the production of crops. The uncontrolled flooding of land by the over flow of rivers or streams is not categorized as irrigation practice although sometimes farmers use this incidence for production.

Improved Seed: is defined as crop variety which gives significantly higher yield, better quality and/or better benefit compared to traditional varieties of seeds, and usually produced by the Ethiopian Seed Enterprise (ESE) in Ethiopia.

Fertilizer: refers to anything added to the soil intended to increase the amount of plant nutrients available for crop growth. Usually fertilizers are divided into two parts, Natural and Commercial. Examples of natural fertilizers are farmyard manure and wood ashes while commercial fertilizers are DAP (Di-Ammonium Phosphate) and UREA (Ammonium Nitrate).

Pesticides: Pesticides are chemicals useful for the mitigation, control or elimination of pests which are trouble some or harmful to crops. Insecticides, herbicides and fungicides are all considered as pesticides.

NOTE

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

11. SUMMARY OF THE SURVEY RESULTS

As mentioned earlier, the results of the 1996/97 (1989 E.C.) agricultural sample survey on belg season farm management practices are presented in three sections. In each section short descriptive analysis and tables with numerical results for the country and region levels are presented.

According to 1996/97(1989 E.C.) annual agricultural sample survey results, it was estimated that 861.34 thousand hectares of land was covered by belg season major crops. In which 4763.23 thousand holders were engaged in the production activity. Of the total area under belg season major crops 223.34 thousand hectares (25.94%) was under the use of improved farm management practices in which 350 (7.33%) thousands belg crop producing holders reported to be involved in applying different agricultural inputs.

Moreover, in 1996/97 (1989 E.C) it was estimated that a total of 551,080 quintals of commercial fertilizer was utilized for belg season crop production. The details in each of the above mentioned variables are discussed in the following sub-sections

Summary Table A. summary of the survey results.

*Belg Crop Area (000'ha)	861.34
*Number of Belg Crop producing Holders('000)	4763.23
*Area Under Improved Farm Management Practices(000'ha)	223.34
*Number of Holders Reporting the Use of Farm Management Practices('000)	348.02
*Quantity of Commercial Fertilizer(000'qt)	551.08

SECTION 1.

1.1 TOTAL AREA UNDER DIFFERENT FARM MANAGEMENT PRACTICES

According to the 1996/97(1989 E. C.) agricultural sample survey results, it was estimated that about 861.34 thousand hectares of land was covered by belg season major crops. Of this total 223.34 hectares (25.93% of the total) was under the use of improved farm management practices. Moreover, of the above mentioned total area under improved farm inputs, 147.29 thousand hectares (65.93%) was under fertilizer (both natural and commercial), 45.64 thousand hectares (20.44%) was under irrigation, 22.26 thousand hectares (9.97%) was treated with pesticides and 8.16 thousand hectares (3.66%) was under improved seeds. The coverage of the above mentioned farm management practices accounted for 17.10%, 5.30%, 2.59% and 0.95% of the total area under belg season crops respectively (see summary Table B.).

SUMMARY TABLE B. ESTIMATES OF TOTAL AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, 1996/97(1989 E.C.)

(In '000)

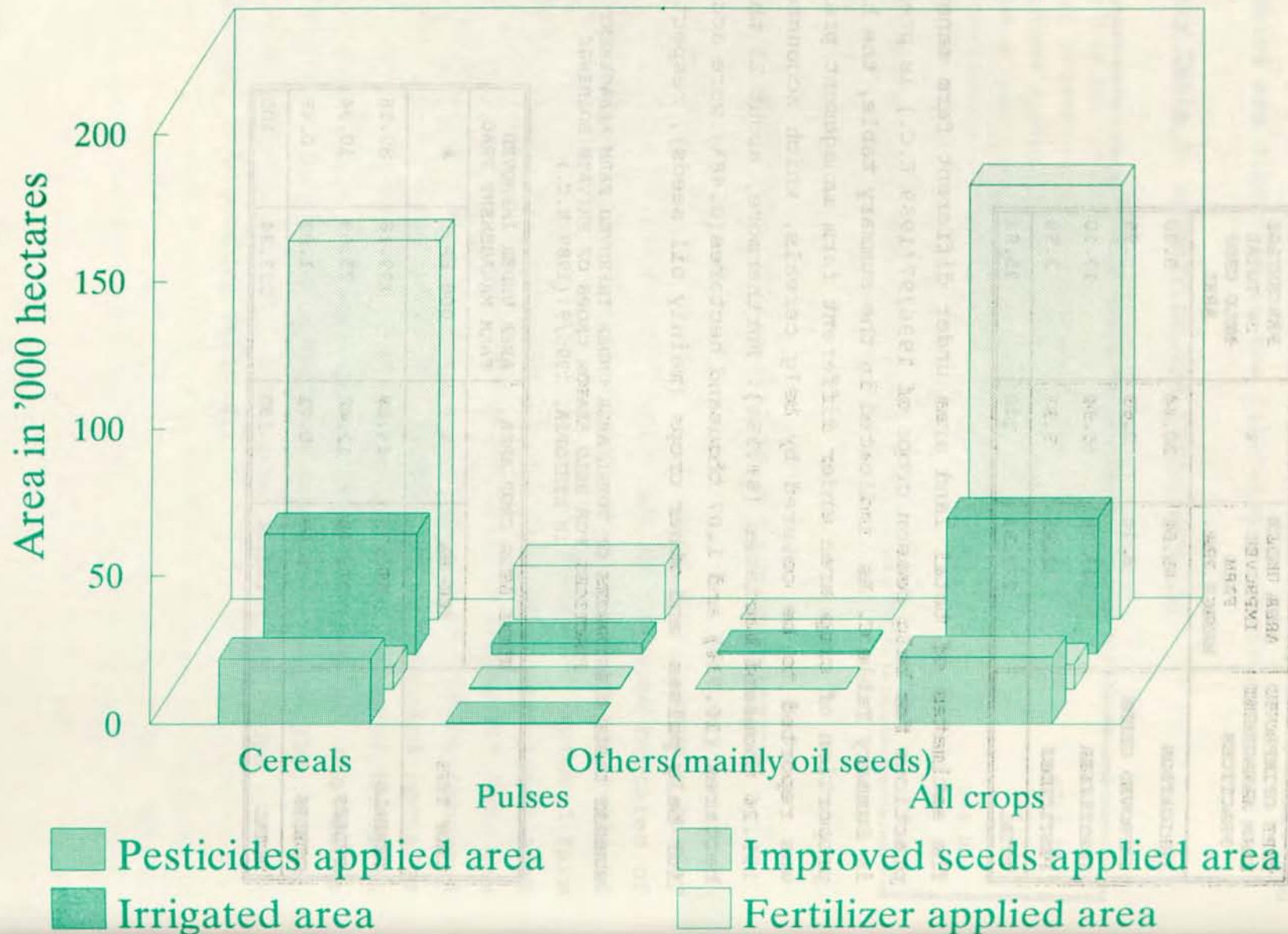
TYPE OF IMPROVED FARM MANAGEMENT PRACTICES	AREA UNDER IMPROVED FARM MANAGE. PRA.	%	PERCENTAGE OF TOTAL BELG CROP AREA
IRRIGATION	45.64	20.44	5.30
IMPROVED SEEDS	8.16	3.65	.95
FERTILIZER	147.28	65.94	17.10
PESTICIDES	22.26	9.97	2.58
TOTAL	223.34	100	25.93

The estimates of total land area under different farm management practices for belg season crops of 1996/97(1989 E.C.) is presented in Summary Table C. As indicated in the summary table, the highest proportion of crop area under different farm management practices was reported to be covered by belg cereals, which accounted for 199.26 thousand hectares (89.19%). Furthermore, about 23 thousand hectares (10.33%) and 1.07 thousand hectares(0.48%) were accounted for belg pulses and other crops (mainly oil seeds), respectively.

SUMMARY TABLE C. ESTIMATES OF TOTAL AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, 1996/97(1989 E.C.)

CROP TYPE	TOTAL BELG CROP AREA		AREA UNDER IMPROVED FARM MANAGEMENT PRAC.	
	000 HA	%	000 HA	%
CEREALS	748.31	86.88	199.18	89.18
PULSES	106.94	12.42	23.09	10.34
OTHERS	6.09	0.71	1.07	0.48
TOTAL	861.34	100	223.34	100

Figure 1. Estimates of total area under improved farm management practices for belg season crops by private holdings in ETHIOPIA, 1996/97(1989 E.C.)



In almost all belg crop producing regions of the country, improved farm inputs were utilized for belg crop production. As indicated in Summary Table D, the largest area under belg season crops was reported by Oromiya Region, covering 47.40%(105880 hectares). The second and third were S.N.N.P.R and Amhara Regions with the coverage of 37.93%(84720 hectares) and 11.97%(26740 hectares) respectively.

SUMMARY TABLE D. ESTIMATES OF TOTAL AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, 1996/97(1990 E.C.) BY REGION.

REGION	TOTAL BELG CROP AREA		AREA UNDER FARM MANAGEMENT PRACTICES	
	000 HA	%	000 HA	%
TIGRAY	12.51	1.45	2.56	1.15
AFAR	-	-	-	-
AMHARA	126.94	14.74	26.74	11.97
OROMIA	406.22	47.16	105.88	47.40
SOMALIE	22.14	2.57	1.49	0.67
BENSHANGUL-GUMEZ	17.88	2.08	1.23	0.55
S.N.N.P.R	273.44	31.75	84.72	37.93
GAMBELA	1.61	.19	.42	0.19
HARARI	0.28	.03	0.06	0.03
ADDIS ABABA	0.02	0.00	-	-
DIRE DAWA	0.30	.03	0.24	0.11
TOTAL	861.34	100	223.34	100

Fig 2. Estimates of area under improved farm management practices for Belg Season crops of private holdings in Ethiopia, 1996/97(1989 E.C.) By Region

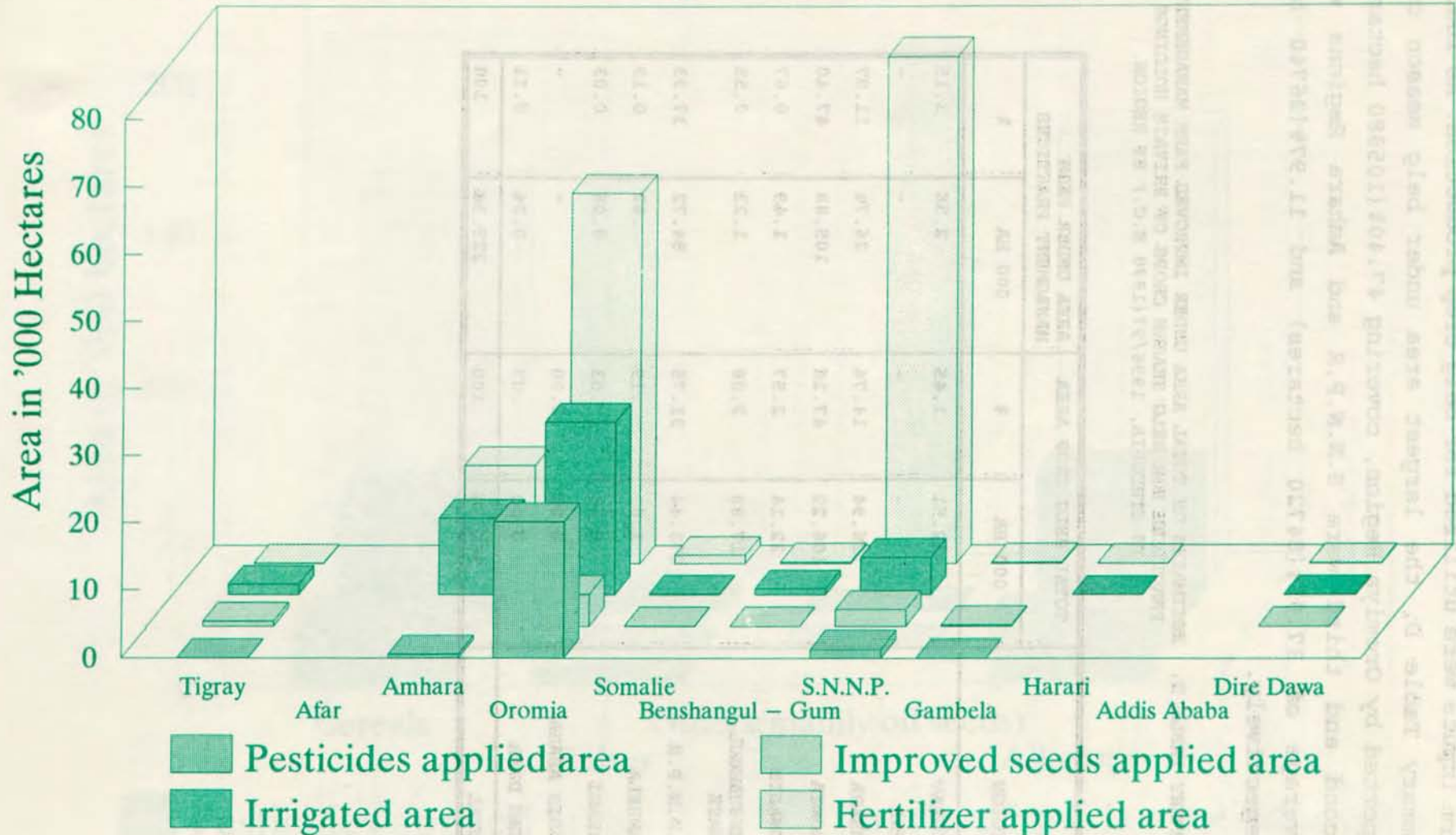


TABLE 1.1

ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR
BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

ETHIOPIA		AREA (IN '000 HECTARES)									
TYPE OF CROP	TOTAL BELG CROP AREA	%	AREA UNDER FARM MANGEMENT PRACTICES								
			IRRGATED	%	IMPROVED SEEDS APPLIED	%	FERTILIZER APPLIED	%	PESTICIDES APPLIED	%	
CEREALS	748.29	86.88	40.96	89.69	7.60	92.91	128.71	87.39	21.99	98.70	
Teff	70.89	8.23	2.74	6.00	.82	10.02	3.21	2.18	3.05	13.69	
Barley	198.22	23.01	1.62	3.55	.05	.61	41.73	28.33	7.86	35.28	
Wheat	46.75	5.43	.50	1.09	.51	6.23	4.48	3.04	2.42	10.86	
Maize	371.81	43.17	35.11	76.88	6.21	75.92	49.40	33.54	4.83	21.68	
Sorghum	40.51	4.70	.03	.07	.01	.12	25.67	17.43	2.08	9.34	
Millet	1.48	.17	-	-	-	-	-	-	-	-	
Oats	18.63	2.16	.96	2.10	-	-	4.22	2.87	1.75	7.85	
PULSES	106.94	12.42	3.80	8.32	.48	5.87	18.52	12.57	.29	1.30	
Horse Beans	4.02	.47	-	-	-	-	.33	.22	-	-	
Field Peas	10.85	1.26	-	-	-	-	.72	.49	.19	.85	
Haricot Beans	76.65	8.90	.03	.07	.48	5.87	17.33	11.77	.05	.22	
Chick Peas	9.55	1.11	2.17	4.75	-	-	.14	.10	.05	.22	
Lentils	4.54	.53	.27	.59	-	-	-	-	-	-	
Vetch	1.33	.15	1.33	2.91	-	-	-	-	-	-	
OTHERS	6.10	.71	.91	1.99	.10	1.22	.06	.04	-	-	
Neug	-	-	-	-	-	-	-	-	-	-	
LinSeed	.93	.11	-	-	-	-	-	-	-	-	
Rapeseed	-	-	-	-	-	-	-	-	-	-	
Ground Nuts	-	-	-	-	-	-	-	-	-	-	
Sun Flower	-	-	-	-	-	-	-	-	-	-	
Sesame	.09	.01	-	-	-	-	-	-	-	-	
Fenugreek	5.08	.59	.91	1.99	.10	1.22	.06	.04	-	-	
ALL CROPS	861.33	100.00	45.67	100.00	8.18	100.00	147.29	100.00	22.28	100.00	

TABLE 1.2

ESTIMATES OF AREA UNDER DIFFERENT FARM MANAGEMENT PRACTICES BY REGION FOR BELG
SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, BY REGION.
1996/97(1989 E.C.)

AREA (IN '000 HECTARES)

REGION	TOTAL BELG CROP AREA	%	AREA UNDER FARM MANAGEMENT PRACTICES							
			IRRIGATED	%	IMPROVED SEEDS APPLIED	%	FERTILIZER APPLIED (NAT + COM)	%	PESTICIDE APPLIED	%
TIGRAY	12.51	1.45	1.62	3.55	.71	8.69	.16	.11	.08	.36
AFAR	-	-	-	-	-	-	-	-	-	-
AMHARA	126.94	14.74	11.46	25.10	-	-	14.66	9.95	.62	2.79
OROMIYA	406.22	47.16	25.80	56.50	4.74	58.02	55.15	37.45	20.20	90.79
SOMALIE	22.13	2.57	.13	.28	.06	.73	1.30	.88	-	-
BENSHANGUL-GUMUZ	17.88	2.08	.95	2.08	.01	.12	.27	.18	-	-
S.N.N.P.	273.43	31.75	5.59	12.24	2.46	30.11	75.37	51.17	1.29	5.80
GAMBELA	1.61	.19	-	-	.18	2.20	.18	.12	.06	.27
HARARI	.28	.03	.01	.02	-	-	.05	.03	-	-
ADDIS ABABA	.02	-	-	-	-	-	-	-	-	-
DIRE DAWA	.30	.03	.10	.22	.01	.12	.14	.10	-	-
TOTAL AREA	861.32	100.00	45.66	100.00	8.17	100.00	147.28	100.00	22.25	100.00

TABLE 1.3

ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR
BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

TIGRAY

AREA (IN '000 HECTARES)

TYPE OF CROP	TOTAL BELG CROP AREA	%	AREA UNDER FARM MANGEMENT PRACTICES							
			IRRGATED	%	IMPRVED SEEDS APPLIED	%	FERTILIZER APPLIED	%	PESTICIDES APPLIED	%
CEREALS	11.88	94.96	1.13	70.19	.71	100.00	.16	100.00	.03	37.50
Teff	10.67	85.29	-	-	.71	100.00	.16	100.00	-	-
Barley	-	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-
Maize	1.21	9.67	1.13	70.19	-	-	-	-	.03	37.50
Sorghum	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-
PULSES	.63	5.04	.48	29.81	-	-	-	-	.05	62.50
Horse Beans	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-
Haricot Beans	-	-	-	-	-	-	-	-	-	-
Chick Peas	.63	5.04	.48	29.81	-	-	-	-	.05	62.50
Lentils	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-
ALL CROPS	12.51	100.00	1.61	100.00	.71	100.00	.16	100.00	.08	100.00

TABLE 1.4

ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR
BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

AMHARA

AREA (IN '000 HECTARES)

TYPE OF CROP	TOTAL BELG CROP AREA	%	AREA UNDER FARM MAGAGEMENT PRACTICES							
			IRRGATED	%	IMPROVED SEEDS APPLIED	%	FERTILIZER APPLIED	%	PESTICIDES APPLIED	%
CEREALS	112.81	88.87	10.28	89.70	-	-	14.46	98.64	.56	90.32
Teff	30.23	23.81	2.74	23.91	-	-	.42	2.86	-	-
Barley	66.39	52.30	1.00	8.73	-	-	13.79	94.07	.52	83.87
Wheat	4.42	3.48	.50	4.36	-	-	-	-	-	-
Maize	7.98	6.29	5.18	45.20	-	-	.17	1.16	.04	6.45
Sorghum	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-
Oats	3.79	2.99	.86	7.50	-	-	.08	.55	-	-
PULSES	12.97	10.22	.27	2.36	-	-	.14	.95	.06	9.68
Horse Beans	.19	.15	-	-	-	-	-	-	-	-
Field Peas	2.52	1.99	-	-	-	-	-	-	.06	9.68
Haricot Beans	.47	.37	-	-	-	-	-	-	-	-
Chick Peas	7.23	5.70	-	-	-	-	.14	.95	-	-
Lentils	2.56	2.02	.27	2.36	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-
OTHERS	1.16	.91	.91	7.94	-	-	.06	.41	-	-
Neug	-	-	-	-	-	-	-	-	-	-
LinSeed	.15	.12	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-
Ground Nuts	-	-	-	-	-	-	-	-	-	-
Sun Flower	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-
Fenugreek	1.01	.80	.91	7.94	-	-	.06	.41	-	-
ALL CROPS	126.94	100.00	11.46	100.00	-	-	14.66	100.00	.62	100.00

TABLE 1.5

ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR
 BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
 1996/97(1989 E.C.)

OROMIA

AREA (IN '000 HECTARES)

TYPE OF CROP	TOTAL BELG CROP AREA	%	AREA UNDER FARM MAGEMENT PRACTICES							
			IRRGATED	%	IMPROVED SEEDS APPLIED	%	FERTILIZER APPLIED	%	PESTICIDES APPLIED	%
CEREALS	351.96	86.64	22.74	88.17	4.15	87.74	49.15	89.10	20.03	99.16
Teff	19.56	4.82	-	-	.10	2.11	2.08	3.77	2.61	12.92
Barley	116.72	28.73	.61	2.37	-	-	26.29	47.66	7.01	34.70
Wheat	41.42	10.20	-	-	.51	10.78	4.47	8.10	2.42	11.98
Maize	155.83	38.36	22.03	85.42	3.54	74.84	12.17	22.06	4.16	20.59
Sorghum	3.59	.88	-	-	-	-	-	-	2.08	10.30
Millet	-	-	-	-	-	-	-	-	-	-
Oats	14.84	3.65	.10	.39	-	-	4.14	7.51	1.75	8.66
PULSES	49.48	12.18	3.05	11.83	.48	10.15	6.01	10.90	.17	.84
Horse Beans	3.65	.90	-	-	-	-	.33	.60	-	-
Field Peas	7.60	1.87	-	-	-	-	.72	1.31	.12	.59
Haricot Beans	33.23	8.18	.03	.12	.48	10.15	4.96	8.99	.05	.25
Chick Peas	1.69	.42	1.69	6.55	-	-	-	-	-	-
Lentils	1.98	.49	-	-	-	-	-	-	-	-
Vetch	1.33	.33	1.33	5.16	-	-	-	-	-	-
OTHERS	4.78	1.18	-	-	.10	2.11	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-
LinSeed	.72	.18	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-
Ground Nuts	-	-	-	-	-	-	-	-	-	-
Sun Flower	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-
Fenugreek	4.06	1.00	-	-	.10	2.11	-	-	-	-
ALL CROPS	406.22	100.00	25.79	100.00	4.73	100.00	55.16	100.00	20.20	100.00

TABLE 1.6

ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR
BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

SOMALE

AREA (IN '000 HECTARES)

TYPE OF CROP	TOTAL BELG CROP AREA	%	AREA UNDER FARM MAGEMENT PRACTICES							
			IRRGATED	%	IMPRVED SEEDS APPLIED	%	FERTILIZER APPLIED	%	PESTICIDES APPLIED	%
CEREALS	21.12	95.39	.13	100.00	.06	100.00	1.30	100.00	-	-
Teff	-	-	-	-	-	-	-	-	-	-
Barley	.43	1.94	-	-	-	-	-	-	-	-
Wheat	.48	2.17	-	-	-	-	-	-	-	-
Maize	19.52	88.17	.11	84.62	.06	100.00	1.30	100.00	-	-
Sorghum	.69	3.12	.02	15.38	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-
PULSES	1.02	4.61	-	-	-	-	-	-	-	-
Horse Beans	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-
Haricot Beans	1.02	4.61	-	-	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-
ALL CROPS	22.14	100.00	.13	100.00	.06	100.00	1.30	100.00	-	-

TABLE 1.7

ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR
BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

BENSHANGUL GUMEZ

AREA (IN '000 HECTARES)

TYPE OF CROP	TOTAL BELG CROP AREA	%	AREA UNDER FARM MANAGEMENT PRACTICES							
			IRRIGATED	%	IMPROVED SEEDS APPLIED	%	FERTILIZER APPLIED	%	PESTICIDES APPLIED	%
CEREALS	3.66	20.47	.95	100.00	.01	100.00	.12	44.44	-	-
Teff	-	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-
Maize	3.66	20.47	.95	100.00	.01	100.00	.12	44.44	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-
PULSES	14.22	79.53	-	-	-	-	.15	55.56	-	-
Horse Beans	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-
Haricot Beans	14.22	79.53	-	-	-	-	.15	55.56	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-
ALL CROPS	17.88	100.00	.95	100.00	.01	100.00	.27	100.00	-	-

TABLE 1.8

 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR
 BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
 1996/97(1989 E.C.)

(S.N.N.P.R)

AREA (IN '000 HECTARES)

TYPE OF CROP	TOTAL BELG CROP AREA	%	AREA UNDER FARM MAGAGEMENT PRACTICES							
			IRRGATED	%	IMPROVED SEEDS APPLIED	%	FERTILIZER APPLIED	%	PESTICIDES APPLIED	%
CEREALS	244.94	89.58	5.59	100.00	2.46	100.00	63.18	83.83	1.30	100.00
Teff	10.43	3.81	-	-	-	-	.55	.73	.44	33.85
Barley	14.62	5.35	-	-	.05	2.03	1.62	2.15	.33	25.38
Wheat	.43	.16	-	-	-	-	-	-	-	-
Maize	181.81	66.49	5.59	100.00	2.41	97.97	35.34	46.89	.53	40.77
Sorghum	36.17	13.23	-	-	-	-	25.67	34.06	-	-
Millet	1.48	.54	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-
PULSES	28.35	10.37	-	-	-	-	12.19	16.17	-	-
Horse Beans	.17	.06	-	-	-	-	.01	.01	-	-
Field Peas	.73	.27	-	-	-	-	-	-	-	-
Haricot Beans	27.45	10.04	-	-	-	-	12.18	16.16	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-
OTHERS	.15	.05	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-
LinSeed	.06	.02	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-
Ground Nuts	-	-	-	-	-	-	-	-	-	-
Sun Flower	-	-	-	-	-	-	-	-	-	-
Sesame	.09	.03	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-
ALL CROPS	273.44	100.00	5.59	100.00	2.46	100.00	75.37	100.00	1.30	100.00

TABLE 1.9

ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR
 BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
 1996/97(1989 E.C.)

GAMBELA			AREA (IN '000 HECTARES)							
TYPE OF CROP	TOTAL BELG CROP AREA	%	AREA UNDER FARM MAGEMENT PRACTICES							
			IRRIGATED	%	IMPROVED SEEDS APPLIED	%	FERTILIZER APPLIED	%	PESTICIDES APPLIED	%
CEREALS	1.60	99.38	-	-	.18	100.00	.18	100.00	.06	100.00
Teff	-	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-
Maize	1.57	97.52	-	-	.18	100.00	.18	100.00	.06	100.00
Sorghum	.03	1.86	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-
PULSES	.01	.62	-	-	-	-	-	-	-	-
Horse Beans	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-
Haricot Beans	.01	.62	-	-	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-
ALL CROPS	1.61	100.00	-	-	.18	100.00	.18	100.00	.06	100.00

TABLE 1.10

ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR
BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

HARARI

AREA (IN '000 HECTARES)

TYPE OF CROP	TOTAL BELG CROP AREA	%	AREA UNDER FARM MAGEMENT PRACTICES							
			IRRGATED	%	IMPRVED SEEDS APPLIED	%	FERTILIZER APPLIED	%	PESTICIDES APPLIED	%
CEREALS	.02	7.14	.01	100.00	-	-	.01	20.00	-	-
Teff	-	-	-	-	-	-	-	-	-	-
Barley	.01	3.57	-	-	-	-	.01	20.00	-	-
Wheat	-	-	-	-	-	-	-	-	-	-
Maize	.01	3.57	.01	100.00	-	-	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-
PULSES	.26	92.86	-	-	-	-	.04	80.00	-	-
Horse Beans	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-
Haricot Beans	.26	92.86	-	-	-	-	.04	80.00	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-
ALL CROPS	.28	100.00	.01	100.00	-	-	.05	100.00	-	-

TABLE 1.11

ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR
BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

ADDIS ABABA

AREA (IN '000 HECTARES)

TYPE OF CROP	TOTAL BELG CROP AREA	%	AREA UNDER FARM MAGEMENT PRACTICES							
			IRRGATED	%	IMPRPOVED SEEDS APPLIED	%	FERTILIZER APPLIED	%	PESTICIDES APPLIED	%
CEREALS	.02	100.00	-	-	-	-	-	-	-	-
Teff	-	-	-	-	-	-	-	-	-	-
Barley	.02	100.00	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-
Maize	-	-	-	-	-	-	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-
ALL CROPS	.02	100.00	-	-	-	-	-	-	-	-

TABLE 1.12

ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR
BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

DIRE DAWA

AREA (IN '000 HECTARES)

TYPE OF CROP	TOTAL BELG CROP AREA	%	AREA UNDER FARM MAGEMENT PRACTICES							
			IRRGATED	%	IMPRPOVED SEEDS APPLIED	%	FERTILIZER APPLIED	%	PESTICIDES APPLIED	%
CEREALS	.30	100.00	.10	100.00	.01	100.00	.13	100.00	-	-
Teff	-	-	-	-	-	-	-	-	-	-
Barley	.02	6.67	-	-	-	-	.01	7.69	-	-
Wheat	.01	3.33	-	-	-	-	.01	7.69	-	-
Maize	.24	80.00	.10	100.00	-	-	.11	84.62	-	-
Sorghum	.03	10.00	-	-	.01	100.00	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-
ALL CROPS	.30	100.00	.10	100.00	.01	100.00	.13	100.00	-	-

1.2 TOTAL AREA UNDER FERTILIZER BY TYPE

The results of the survey indicate that land area under both natural and commercial fertilizers were estimated to be 229.51 thousand hectares, covering 26.65% of the total area under belg seasons crops of the private holdings. Of the total fertilizer applied area 65.95 thousand hectares (28.74%) was reported to be under natural fertilizers. The area under commercial fertilizers was estimated to be 81.33 thousand hectares (35.44%), constituting of 27.57% DAP, 4.92% UREA and 2.94% mix of the two fertilizers (DAP+UREA). Moreover, 900 hectares (0.39%) was reported to be the area under the mix of natural and commercial fertilizers (for details see Summary Table E.).

SUMMARY TABLE E. ESTIMATES OF TOTAL AREA UNDER FERTILIZER BY TYPE OF FERTILIZER FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, 1996/97 (1989 E.C.)

SR.NO	TYPE OF FERTILIZER	FERTILIZER APPLIED AREA		PERCENTAGE FROM TOTAL BELG CROP AREA
		000 HA	%	
1	NATURAL	65.95	28.74	7.66
2	COMMERCIAL	81.33	35.44	9.44
2.1	DAP	63.28	27.57	7.35
2.2	UREA	11.30	4.92	1.31
3	BOTH (COM+NAT)	0.9	0.39	0.10
	TOTAL	229.51	100	26.65

A. USE OF NATURAL FERTILIZERS

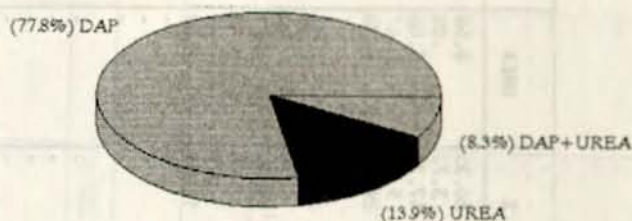
In general the application of natural fertilizers for belg season crops in 1996/97 (1989 E.C.), varies from crop to crop. Of the total natural fertilizer applied area, the highest proportion was reported for maize crop which was estimated at 29.27 thousand hectares (44.38%). The fertilizer applied area (natural fertilizer) under sorghum was the second and estimated to be 25.67 thousand

hectares(38.92%), while area under Haricot Beans stood third with about seven thousand hectares(10.55%) (see Table 2.1).

B. USE OF COMMERCIAL FERTILIZERS

Out of the total commercial fertilizer applied land area in 1996/97(1989 E.C.) belg season, the area under DAP was the highest which accounted for 77.80%, while UREA and the mix of the two fertilizers (DAP+UREA) were covering 13.9% and 8.3% of the belg crop area, respectively (see Fig 3.).

Figure 3. Estimates of commercial fertilizer applied area by type for belg season crops of private holdings in Ethiopia,1996/97(1989 E.C.)



Similarly, the application of commercial fertilizers varied from crop to crop. Of the total area under commercial fertilizers, the highest area was reported for barley at 38.42 thousand hectares (47.77%). The second highest commercial fertilizer applied area was for maize i.e 19.43 thousand hectares 24.16%).

The regional distribution of both natural and commercial fertilizers application varied from region to region. For instance, of the total both (Natural + Commercial) fertilizers applied area the highest was reported for S.N.N.P Region which accounted for 76,020 hectares(52.03% of the total). Oromiya and Amhara Regions were the second and third to report the highest area under both(Natural and Commercial) fertilizers which were estimated to be 55,290 hectares (37.84%) and 14,800 hectares (10.13%) respectively.

ESTIMATES OF FERTILIZER APPLIED AREA BY TYPE OF FERTILIZER FOR
BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

TABLE 2.1

ETHIOPIA

AREA (IN '000 HECTARES)

TYPE OF CROP	TOTAL (COMM+NAT)	%	NATURAL	%	COMME- RICAL	%	UREA	%	DAP	%	DAP+UREA	%	BOTH NAT+COM.	%
CEREALS	128.69	87.38	58.34	88.46	69.45	86.35	8.56	77.61	54.31	86.45	6.58	100.00	.90	100.00
Teff	3.20	2.17	.21	.32	2.99	3.72	.04	.36	1.24	1.97	1.71	25.99	-	-
Barley	41.73	28.33	3.10	4.70	38.42	47.77	3.06	27.74	33.67	53.60	1.69	25.68	.21	23.33
Wheat	4.48	3.04	.01	.02	4.47	5.56	.47	4.26	3.07	4.89	.93	14.13	-	-
Maize	49.39	33.53	29.27	44.38	19.43	24.16	4.20	38.08	13.10	20.85	2.13	32.37	.69	76.67
Sorghum	25.67	17.43	25.67	38.92	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	4.22	2.87	.08	.12	4.14	5.15	.79	7.16	3.23	5.14	.12	1.82	-	-
PULSES	18.53	12.58	7.55	11.45	10.98	13.65	2.47	22.39	8.51	13.55	-	-	-	-
Horse Beans	.33	.22	.33	.50	-	-	-	-	-	-	-	-	-	-
Chick Peas	.72	.49	.12	.18	.60	.75	-	-	.60	.96	-	-	-	-
Haricot Beans	17.34	11.77	6.96	10.55	10.38	12.91	2.47	22.39	7.91	12.59	-	-	-	-
Field Peas	.14	.10	.14	.21	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OTHERS	.06	.04	.06	.09	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lin Seed	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rape seed	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ground Nuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sun Flower	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	.06	.04	.06	.09	-	-	-	-	-	-	-	-	-	-
Castor Bean	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALL CROPS	147.28	100.00	65.95	100.00	80.43	100.00	11.03	100.00	62.82	100.00	6.58	100.00	.90	100.00

ESTIMATES OF FERTILIZER APPLIED AREA BY TYPE OF FERTILIZER FOR
BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

TABLE 2.2 TIGRAY

AREA (IN '000 HECTARES)

TYPE OF CROP	TOTAL (COMM+NAT)	%	NATURAL	%	COMME- RICIAL	%	UREA	%	DAP	%	DAP+UREA	%	BOTH NAT+COM.	%
CEREALS	.16	100.00	-	-	.16	100.00	-	-	.16	100.00	-	-	-	-
Teff	.16	100.00	-	-	.16	100.00	-	-	.16	100.00	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALL CROPS	.16	100.00	-	-	.16	100.00	-	-	.16	100.00	-	-	-	-

TABLE 2.3 AMHARA

AREA (IN '000 HECTARES)

TYPE OF CROP	TOTAL (COMM+NAT)	%	NATURAL	%	COMME- RICIAL	%	UREA	%	DAP	%	DAP+UREA	%	BOTH NAT+COM.	%
CEREALS	14.47	98.64	1.82	90.10	12.52	100.00	.95	100.00	10.23	100.00	1.34	100.00	.13	100.00
Teff	.42	2.86	.21	10.40	.21	1.68	-	-	.21	2.05	-	-	-	-
Barley	13.79	94.00	1.46	72.28	12.20	97.44	.95	100.00	9.91	96.87	1.34	100.00	.13	100.00
Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	.18	1.23	.07	3.47	.11	.88	-	-	.11	1.08	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	.08	.55	.08	3.96	-	-	-	-	-	-	-	-	-	-
PULSES	.14	.95	.14	6.93	-	-	-	-	-	-	-	-	-	-
Horse Beans	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricot Beans	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	.14	.95	.14	6.93	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OTHERS	.06	.41	.06	2.97	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lin Seed	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rape seed	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ground Nuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sun Flower	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	.06	.41	.06	2.97	-	-	-	-	-	-	-	-	-	-
Castor Bean	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALL CROPS	14.67	100.00	2.02	100.00	12.52	100.00	.95	100.00	10.23	100.00	1.34	100.00	.13	100.00

ESTIMATES OF FERTILIZER APPLIED AREA BY TYPE OF FERTILIZER FOR
BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

TABLE 2.4 OROMIA

AREA (IN '000 HECTARES)

TYPE OF CROP	TOTAL (COMM+NAT)	%	NATURAL	%	COMME- RICIAL	%	UREA	%	DAP	%	DAP+UREA	%	BOTH NAT+COM.	%
CEREALS	49.15	89.10	11.33	68.01	37.69	98.23	3.93	100.00	30.45	97.82	3.31	100.00	.13	100.00
Teff	2.08	3.77	-	-	2.08	5.42	-	-	.37	1.19	1.71	51.66	-	-
Barley	26.30	47.68	1.21	7.26	25.01	65.18	2.10	53.44	22.56	72.47	.35	10.57	.08	61.54
Wheat	4.47	8.10	-	-	4.47	11.65	.47	11.96	3.07	9.86	.93	28.10	-	-
Maize	12.16	22.04	10.12	60.74	1.99	5.19	.57	14.50	1.22	3.92	.20	6.04	.05	38.46
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	4.14	7.51	-	-	4.14	10.79	.79	20.10	3.23	10.38	.12	3.63	-	-
PULSES	6.01	10.90	5.33	31.99	.68	1.77	-	-	.68	2.18	-	-	-	-
Horse Beans	.33	.60	.33	1.98	-	-	-	-	-	-	-	-	-	-
Chick Peas	.72	1.31	.12	.72	.60	1.56	-	-	.60	1.93	-	-	-	-
Haricot Beans	4.96	8.99	4.88	29.29	.08	.21	-	-	.08	.26	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALL CROPS	55.16	100.00	16.66	100.00	38.37	100.00	3.93	100.00	31.13	100.00	3.31	100.00	.13	100.00

TABLE 2.5 SOMALE

AREA (IN '000 HECTARES)

TYPE OF CROP	TOTAL (COMM+NAT)	%	NATURAL	%	COMME- RICIAL	%	UREA	%	DAP	%	DAP+UREA	%	BOTH NAT+COM.	%
CEREALS	1.30	100.00	1.21	100.00	.09	100.00	-	-	.09	100.00	-	-	-	-
Teff	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	1.30	100.00	1.21	100.00	.09	100.00	-	-	.09	100.00	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALL CROPS	1.30	100.00	1.21	100.00	.09	100.00	-	-	.09	100.00	-	-	-	-

ESTIMATES OF FERTILIZER APPLIED AREA BY TYPE OF FERTILIZER FOR
BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

TABLE 2.6 BENSANGUL GUMEZ

AREA (IN '000 HECTARES)

TYPE OF CROP	TOTAL (COMM+NAT)		NATURAL		COMME- RICAL		UREA		DAP		DAP+UREA		BOTH NAT+COM.	
		%		%		%		%		%		%		%
CEREALS	.12	44.44	.12	44.44	-	-	-	-	-	-	-	-	-	-
Teff	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	.12	44.44	.12	44.44	-	-	-	-	-	-	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PULSES	.15	55.56	.15	55.56	-	-	-	-	-	-	-	-	-	-
Horse Beans	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricot Beans	.15	55.56	.15	55.56	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALL CROPS	.27	100.00	.27	100.00	-	-	-	-	-	-	-	-	-	-

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TABLE 2.7 (S.N.N.P.R)

AREA (IN '000 HECTARES)

TYPE OF CROP	TOTAL (COMM+NAT)		NATURAL		COMME- RICAL		UREA		DAP		DAP+UREA		BOTH NAT+COM.	
		%		%		%		%		%		%		%
CEREALS	63.20	83.83	43.73	95.79	18.83	64.71	3.66	59.90	13.24	62.87	1.93	100.00	.64	100.00
Teff	.55	.73	-	-	.55	1.89	.04	.65	.51	2.42	-	-	-	-
Barley	1.63	2.16	.41	.90	1.22	4.19	.01	.16	1.21	5.75	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	35.35	46.89	17.65	38.66	17.06	58.63	3.61	59.08	11.52	54.70	1.93	100.00	.64	100.00
Sorghum	25.67	34.05	25.67	56.23	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PULSES	12.19	16.17	1.92	4.21	10.27	35.29	2.45	40.10	7.82	37.13	-	-	-	-
Horse Beans	.01	.01	.01	.02	-	-	-	-	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricot Beans	12.18	16.16	1.91	4.18	10.27	35.29	2.45	40.10	7.82	37.13	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALL CROPS	75.39	100.00	45.65	100.00	29.10	100.00	6.11	100.00	21.06	100.00	1.93	100.00	.64	100.00

ESTIMATES OF FERTILIZER APPLIED AREA BY TYPE OF FERTILIZER FOR
BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

TABLE 2.8 GAMBELA

AREA (IN '000 HECTARES)

TYPE OF CROP	TOTAL (COMM+NAT)	%	NATURAL	%	COMME- RICAL	%	UREA	%	DAP	%	DAP+UREA	%	BOTH NAT+COM.	%
CEREALS	.18	100.00	-	-	.18	100.00	.02	100.00	.16	100.00	-	-	-	-
Teff	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	.18	100.00	-	-	.18	100.00	.02	100.00	.16	100.00	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALL CROPS	.18	100.00	-	-	.18	100.00	.02	100.00	.16	100.00	-	-	-	-

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TABLE 2.9 HARARI

AREA (IN '000 HECTARES)

TYPE OF CROP	TOTAL (COMM+NAT)	%	NATURAL	%	COMME- RICAL	%	UREA	%	DAP	%	DAP+UREA	%	BOTH NAT+COM.	%
CEREALS	.01	20.00	-	-	.01	25.00	.01	33.33	-	-	-	-	-	-
Teff	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barley	.01	20.00	-	-	.01	25.00	.01	33.33	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PULSES	.04	80.00	.01	100.00	.03	75.00	.02	66.67	.01	100.00	-	-	-	-
Horse Beans	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricot Beans	.04	80.00	.01	100.00	.03	75.00	.02	66.67	.01	100.00	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALL CROPS	.05	100.00	.01	100.00	.04	100.00	.03	100.00	.01	100.00	-	-	-	-

TABLE 2.10

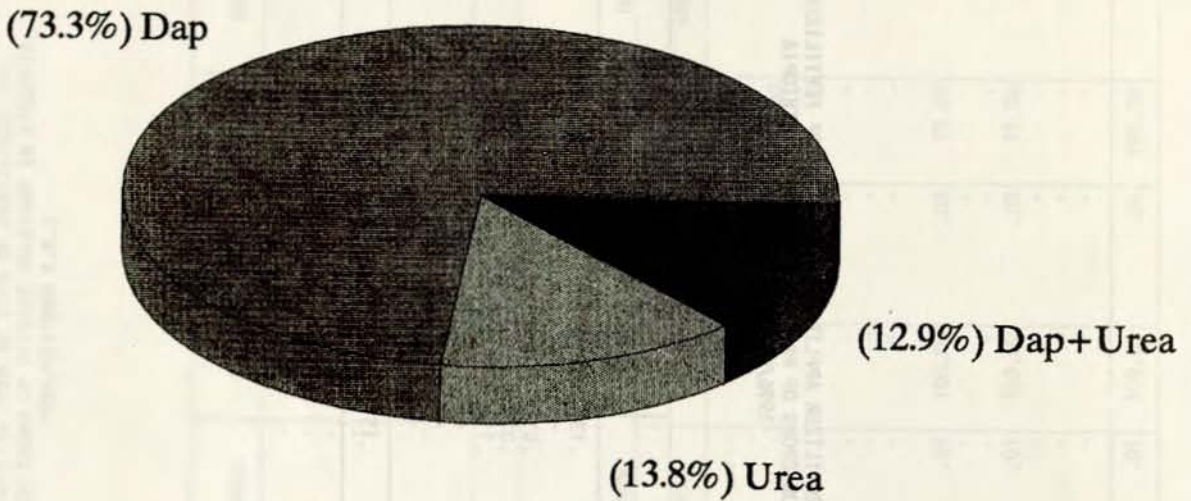
ESTIMATES OF FERTILIZER APPLIED AREA BY TYPE OF FERTILIZER FOR
BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

TYPE OF CROP	AREA (IN '000 HECTARES)													
	TOTAL (COMM+NAT)	%	NATURAL	%	COMME- RICAL	%	UREA	%	DAP	%	DAP+UREA	%	BOTH NAT+COM.	%
CEREALS	.14	100.00	.13	100.00	.01	100.00	.01	100.00	-	-	-	-	-	-
Teff	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barley	.01	7.14	.01	7.69	-	-	-	-	-	-	-	-	-	-
Wheat	.01	7.14	.01	7.69	-	-	-	-	-	-	-	-	-	-
Maize	.12	85.71	.11	84.62	.01	100.00	.01	100.00	-	-	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALL CROPS	.14	100.00	.13	100.00	.01	100.00	.01	100.00	-	-	-	-	-	-

1.3 TOTAL QUANTITY OF COMMERCIAL FERTILIZER APPLIED BY TYPE

In 1996/97(1989 E.C) the total quantity of commercial fertilizer used for belg season crop production was estimated at 551080 quintals. Of this total, the share of DAP was the highest accounting for 73.27% (403840 quintals). UREA was the second highest accounting for 13.80% (75930 quintals) while the mix of the two types of fertilizer(DAP+UREA) stood third accounting for 12.93% (71320 quintals) (see Fig 4.).

Figure 4. Estimates of total quantity of commercial fertilizer applied by type for belg season crops of private holdings in Ethiopia, 1996/97(1989 E.C.)



ESTIMATES OF QUANTITY OF COMMERCIAL FERTILIZER APPLIED
 BY TYPE OF FERTILIZER FOR BELG SEASON CROPS OF
 PRIVATE HOLDINGS IN ETHIOPIA, 1996/97(1989 E.C.)

TABLE 3.1 AMHARA

QUANTITY (IN '000 QUINTAL)

TYPE OF CROP	TOTAL QUANTITY	%	UREA	%	DAP	%	DAP + UREA	%
CEREALS	120.10	100.00	9.26	100.00	81.35	100.00	29.49	100.00
Teff	.62	.52	-	-	.62	.76	-	-
Barley	119.29	99.33	9.26	100.00	80.54	99.00	29.49	100.00
Wheat	-	-	-	-	-	-	-	-
Maize	.19	.16	-	-	.19	.23	-	-
Sorghum	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-
ALL CROPS	120.10	100.00	9.26	100.00	81.35	100.00	29.49	100.00

TABLE 3.2 OROMIA

QUANTITY (IN '000 QUINTAL)

TYPE OF CROP	TOTAL QUANTITY	%	UREA	%	DAP	%	DAP + UREA	%
CEREALS	225.87	98.46	22.41	100.00	192.79	98.20	10.67	100.00
Teff	1.29	.56	-	-	.68	.35	.62	5.81
Barley	164.76	71.82	13.03	58.14	149.27	76.03	2.46	23.06
Wheat	17.27	7.53	3.89	17.36	11.99	6.11	1.38	12.93
Maize	18.73	8.16	1.49	6.65	11.61	5.91	5.63	52.76
Sorghum	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-
Oats	23.82	10.38	4.00	17.85	19.24	9.80	.58	5.44
PULSES	3.54	1.54	-	-	3.54	1.80	-	-
Horse Beans	-	-	-	-	-	-	-	-
Chick Peas	3.46	1.51	-	-	3.46	1.76	-	-
Haricot Beans	.08	.03	-	-	.08	.04	-	-
Field Peas	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-
ALL CROPS	229.41	100.00	22.41	100.00	196.33	100.00	10.67	100.00

TABLE 3.3 SOMALE

QUANTITY (IN '000 QUINTAL)

TYPE OF CROP	TOTAL QUANTITY	%	UREA	%	DAP	%	DAP + UREA	%
CEREALS	1.04	100.00	-	-	1.04	100.00	-	-
Teff	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-
Maize	1.04	100.00	-	-	1.04	100.00	-	-
Sorghum	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-
ALL CROPS	1.04	100.00	-	-	1.04	100.00	-	-

ESTIMATES OF QUANTITY OF COMMERCIAL FERTILIZER APPLIED
BY TYPE OF FERTILIZER FOR BELG SEASON CROPS OF
PRIVATE HOLDINGS IN ETHIOPIA, 1996/97(1989 E.C.)

TABLE 3.4 (S.W.N.P.R)

QUANTITY (IN '000 QUINTAL)

TYPE OF CROP	TOTAL QUANTITY	%	UREA	%	DAP	%	DAP + UREA	%
CEREALS	135.42	72.82	31.17	74.20	80.16	66.88	24.08	100.00
Teff	3.10	1.67	.04	.10	3.06	2.55	-	-
Barley	12.80	6.88	.09	.21	12.71	10.60	-	-
Wheat	-	-	-	-	-	-	-	-
Maize	119.52	64.27	31.04	73.89	64.39	53.72	24.08	100.00
Sorghum	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-
PULSES	50.55	27.18	10.84	25.80	39.70	33.12	-	-
Horse Beans	-	-	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-
Haricot Beans	50.55	27.18	10.84	25.80	39.70	33.12	-	-
Field Peas	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-
ALL CROPS	185.97	100.00	42.01	100.00	119.86	100.00	24.08	100.00

TABLE 3.5 GAMBELA

QUANTITY (IN '000 QUINTAL)

TYPE OF CROP	TOTAL QUANTITY	%	UREA	%	DAP	%	DAP + UREA	%
CEREALS	1.56	100.00	.16	100.00	1.22	100.00	.18	100.00
Teff	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-
Maize	1.56	100.00	.16	100.00	1.22	100.00	.18	100.00
Sorghum	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-
ALL CROPS	1.56	100.00	.16	100.00	1.22	100.00	.18	100.00

TABLE 3.6 HARARI

QUANTITY (IN '000 QUINTAL)

TYPE OF CROP	TOTAL QUANTITY	%	UREA	%	DAP	%	DAP + UREA	%
CEREALS	.33	54.10	.33	64.71	-	-	-	-
Teff	-	-	-	-	-	-	-	-
Barley	.33	54.10	.33	64.71	-	-	-	-
Wheat	-	-	-	-	-	-	-	-
Maize	-	-	-	-	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-
PULSES	.28	45.90	.18	35.29	.10	100.00	-	-
Horse Beans	-	-	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-
Haricot Beans	.28	45.90	.18	35.29	.10	100.00	-	-
Field Peas	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-
ALL CROPS	.61	100.00	.51	100.00	.10	100.00	-	-

ESTIMATES OF QUANTITY OF COMMERCIAL FERTILIZER APPLIED
 BY TYPE OF FERTILIZER FOR BELG SEASON CROPS OF
 PRIVATE HOLDINGS IN ETHIOPIA, 1996/97(1989 E.C.)

SECTION 3

TABLE 3.7 DIRE DAWA

QUANTITY (IN '000 QUINTAL)

TYPE OF CROP	TOTAL QUANTITY	%	UREA	%	DAP	%	DAP + UREA	%
CEREALS	.01	100.00	.01	100.00	-	-	-	-
Teff	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-
Maize	.01	100.00	.01	100.00	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-
ALL CROPS	.01	100.00	.01	100.00	-	-	-	-

According to the survey results, in 1996/97 (1989 E.C.) it was estimated that a total of 65,184 hectares were under Belg season major crops. By these groupings, as presented in Figure 3 the highest Belg crop area (55,184 hectares) was followed by group 3, 15,264 and group 4, 4,736 (for details see Table 4.1 and Fig 3.1).



SECTION 2.

2.1 TOTAL AREA AND DISTRIBUTION OF AREA UNDER DIFFERENT FARM MANAGEMENT PRACTICE BY AREA SIZE GROUPS.

For the purpose of a systematic presentation of this report, total belg crop area has been classified in to seven area size groups. These groupings are:

- Group 1 - under 0.10 hectare
- Group 2 - 0.10 - 0.50 hectare
- Group 3 - 0.51 - 1.00 hectare
- Group 4 - 1.01 - 2.00 hectares
- Group 5 - 2.01 - 5.00 hectares
- Group 6 - 5.01 - 10.00 hectares
- Group 7 - 10.01 and above hectares

According to the survey results, in 1996/97(1989 E.C) it was estimated that a total of 861.34 thousand hectares was under belg season major crops. By these groupings, as presented in Figure 5 the highest belg crop area 65.12% falls in area size group 2 which followed by group 3, 15.56% and group 1, 11.18%(for details see Table 4.1 and Fig 5.).

Figure 5. Estimates of total area under belg season crops by area size groups of private holdings in Ethiopia,1996/97(1989 E.C.)

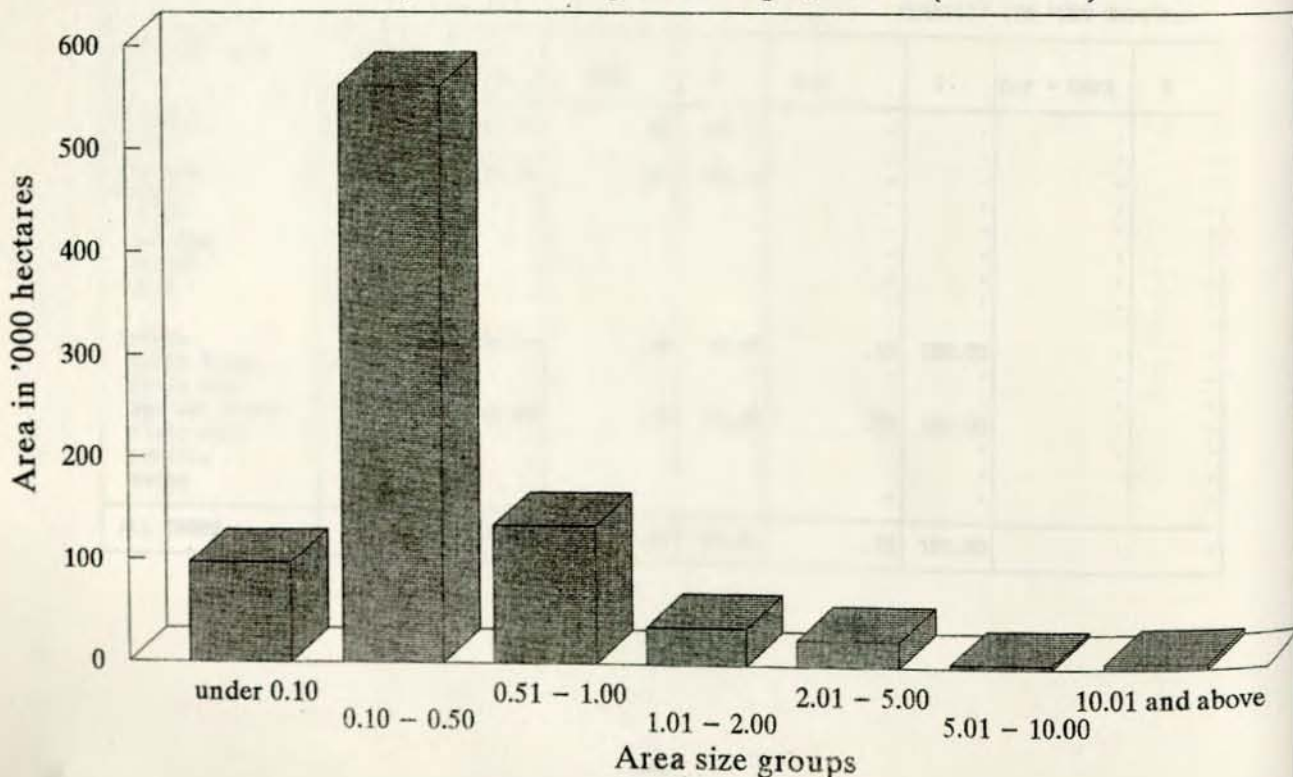


TABLE 4.1

ESTIMATE OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

ETHIOPIA		AREA (IN '000 HECTARES)							
TYPE OF CROP	SIZE OF HOLDING IN HECTARES							TOTAL	
	UNDER 0.10	0.10-0.50	0.51-1.00	1.01-2.00	2.01-5.00	5.01-10.00	10.01 & ABOVE		
CEREALS	76.61	482.27	122.71	34.67	23.24	3.53	5.25	748.29	
Teff	4.66	57.03	6.92	2.28	-	-	-	70.89	
Barley	24.89	153.19	17.66	1.18	1.30	-	-	198.22	
Wheat	4.02	29.63	13.10	-	-	-	-	46.75	
Maize	37.33	217.15	68.52	25.83	14.19	3.53	5.25	371.81	
Sorghum	1.23	11.66	14.49	5.38	7.75	-	-	40.51	
Millet	.13	1.35	-	-	-	-	-	1.48	
Oats	4.35	12.26	2.02	-	-	-	-	18.63	
PULSES	18.74	73.81	10.94	1.26	2.17	-	-	106.94	
Horse Beans	1.05	2.96	-	-	-	-	-	4.02	
Field Peas	2.53	8.04	.27	-	-	-	-	10.85	
Haricot Beans	12.99	51.17	9.06	1.26	2.17	-	-	76.65	
Chick Peas	.97	7.24	1.34	-	-	-	-	9.55	
Lentils	1.15	3.12	.27	-	-	-	-	4.54	
Vetch	.05	1.28	-	-	-	-	-	1.33	
OTHERS	.96	4.78	.36	-	-	-	-	6.10	
Neug	.72	4.00	.36	-	-	-	-	5.08	
Lin Seed	.15	.78	-	-	-	-	-	.93	
Rape seed	-	-	-	-	-	-	-	-	
Fenugreek	-	-	-	-	-	-	-	-	
Ground Nuts	-	-	-	-	-	-	-	-	
Sun Flower	.09	-	-	-	-	-	-	.09	
Sesame	-	-	-	-	-	-	-	-	
Castor Bean	-	-	-	-	-	-	-	-	
ALL CROPS	96.31	560.86	134.01	35.93	25.41	3.53	5.25	861.33	

TABLE 4.2

ESTIMATES OF AREA BY SIZE OF HOLDING AND REGION FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

AREA (IN '000 HECTARES)

REGION	SIZE OF HOLDING IN HECTARES							TOTAL
	UNDER 0.10	0.10-0.50	0.51-1.00	1.01-2.00	2.01-5.00	5.01-10.00	10.01 & ABOVE	
TIGRAY	1.22	10.05	1.24	-	-	-	-	12.51
AFAR	-	-	-	-	-	-	-	-
AMHARA	23.53	88.73	12.81	.57	1.30	-	-	126.94
OROMIYA	43.32	283.21	64.22	9.17	1.05	-	5.25	406.22
SOMALIE	1.61	13.28	7.05	.19	-	-	-	22.13
BENISHANGUL-GUMUZ	.37	9.89	2.25	1.52	3.86	-	-	17.88
S.N.N.P.	26.20	154.34	45.75	24.44	19.16	3.53	-	273.43
GAMBELLA	.04	.86	.61	.05	.05	-	-	1.61
HARARI	.01	.20	.07	-	-	-	-	.28
ADDIS ABABA	-	.02	-	-	-	-	-	.02
DIRE DAWA	.02	.26	.02	-	-	-	-	.30
TOTAL AREA	96.33	560.84	134.02	35.93	25.42	3.53	5.25	861.32

TABLE 4.3
TIGRAY

ESTIMATE OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

AREA (IN '000 HECTARES)

TYPE OF CROP	SIZE OF HOLDING IN HECTARES							TOTAL
	UNDER 0.10	0.10-0.50	0.51-1.00	1.01-2.00	2.01-5.00	5.01-10.00	10.01 & ABOVE	
CEREALS	.86	9.78	1.24	-	-	-	-	11.88
Teff	.17	9.26	1.24	-	-	-	-	10.67
Barley	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-
Maize	.69	.52	-	-	-	-	-	1.21
Sorghum	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-
PULSES	.36	.27	-	-	-	-	-	.63
Horse Beans	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-
Haricot Beans	-	-	-	-	-	-	-	-
Chick Peas	.36	.27	-	-	-	-	-	.63
Lentils	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-
ALL CROPS	1.22	10.05	1.24	-	-	-	-	12.51

TABLE 4.4

ESTIMATE OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

AMHARA

AREA (IN '000 HECTARES)

TYPE OF CROP	SIZE OF HOLDING IN HECTARES							TOTAL
	UNDER 0.10	0.10-0.50	0.51-1.00	1.01-2.00	2.01-5.00	5.01-10.00	10.01 & ABOVE	
CEREALS	19.48	80.61	10.84	.57	1.30	-	-	112.81
Teff	3.68	23.99	1.99	.57	-	-	-	30.23
Barley	10.16	47.99	6.94	-	1.30	-	-	66.39
Wheat	1.97	2.45	-	-	-	-	-	4.42
Maize	1.26	4.80	1.91	-	-	-	-	7.98
Sorghum	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-
Oats	2.41	1.38	-	-	-	-	-	3.79
PULSES	3.59	7.77	1.61	-	-	-	-	12.97
Horse Beans	.06	.13	-	-	-	-	-	.19
Field Peas	1.56	.96	-	-	-	-	-	2.52
Haricot Beans	.33	.14	-	-	-	-	-	.47
Chick Peas	.56	5.33	1.34	-	-	-	-	7.23
Lentils	1.08	1.21	.27	-	-	-	-	2.56
Vetch	-	-	-	-	-	-	-	-
OTHERS	.46	.34	.36	-	-	-	-	1.16
Neug	.31	.34	.36	-	-	-	-	1.01
Lin Seed	.15	-	-	-	-	-	-	.15
Rape seed	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-
Ground Nuts	-	-	-	-	-	-	-	-
Sun Flower	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-
Castor Bean	-	-	-	-	-	-	-	-
ALL CROPS	23.53	88.72	12.81	.57	1.30	-	-	126.94

TABLE 4.5

ESTIMATE OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

OROMIA

AREA (IN '000 HECTARES)

TYPE OF CROP	SIZE OF HOLDING IN HECTARES							TOTAL
	UNDER 0.10	0.10-0.50	0.51-1.00	1.01-2.00	2.01-5.00	5.01-10.00	10.01 & ABOVE	
CEREALS	33.87	243.72	58.88	9.16	1.05	-	5.25	351.96
Teff	.48	14.34	3.03	1.71	-	-	-	19.56
Barley	11.93	93.56	10.06	1.18	-	-	-	116.72
Wheat	1.83	26.48	13.10	-	-	-	-	41.42
Maize	17.60	96.49	29.16	6.27	1.05	-	5.25	155.83
Sorghum	.09	1.98	1.51	-	-	-	-	3.59
Millet	-	-	-	-	-	-	-	-
Oats	1.94	10.87	2.02	-	-	-	-	14.84
PULSES	9.05	35.10	5.32	-	-	-	-	49.48
Horse Beans	.85	2.80	-	-	-	-	-	3.65
Field Peas	.84	6.76	-	-	-	-	-	7.60
Haricot Beans	7.18	20.72	5.32	-	-	-	-	33.23
Chick Peas	.05	1.64	-	-	-	-	-	1.69
Lentils	.08	1.90	-	-	-	-	-	1.98
Vetch	.05	1.28	-	-	-	-	-	1.33
OTHERS	.41	4.38	-	-	-	-	-	4.78
Neug	.41	3.66	-	-	-	-	-	4.06
Lin Seed	-	.72	-	-	-	-	-	.72
Rape seed	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-
Ground Nuts	-	-	-	-	-	-	-	-
Sun Flower	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-
Castor Bean	-	-	-	-	-	-	-	-
ALL CROPS	43.33	283.20	64.20	9.16	1.05	-	5.25	406.22

TABLE 4.6

ESTIMATE OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

SOMALE

AREA (IN '000 HECTARES)

TYPE OF CROP	SIZE OF HOLDING IN HECTARES							TOTAL
	UNDER 0.10	0.10-0.50	0.51-1.00	1.01-2.00	2.01-5.00	5.01-10.00	10.01 & ABOVE	
CEREALS	1.58	12.29	7.05	.19	-	-	-	21.12
Teff	-	-	-	-	-	-	-	-
Barley	.17	.26	-	-	-	-	-	.43
Wheat	.20	.28	-	-	-	-	-	.48
Maize	.91	11.37	7.05	.19	-	-	-	19.52
Sorghum	.30	.38	-	-	-	-	-	.69
Millet	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-
PULSES	.03	.99	-	-	-	-	-	1.02
Horse Beans	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-
Haricot Beans	.03	.99	-	-	-	-	-	1.02
Chick Peas	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-
ALL CROPS	1.61	13.28	7.05	.19	-	-	-	22.14

TABLE 4.7

ESTIMATE OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

BENSHANGUL GUMEZ

AREA (IN '000 HECTARES)

TYPE OF CROP	SIZE OF HOLDING IN HECTARES							TOTAL
	UNDER 0.10	0.10-0.50	0.51-1.00	1.01-2.00	2.01-5.00	5.01-10.00	10.01 & ABOVE	
CEREALS	.11	1.38	.22	.26	1.69	-	-	3.66
Teff	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-
Maize	.11	1.38	.22	.26	1.69	-	-	3.66
Sorghum	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-
PULSES	.25	8.51	2.03	1.26	2.17	-	-	14.22
Horse Beans	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-
Haricot Beans	.25	8.51	2.03	1.26	2.17	-	-	14.22
Chick Peas	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-
ALL CROPS	.36	9.89	2.25	1.52	3.86	-	-	17.88

TABLE 4.8

ESTIMATE OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

(S.N.N.P.R)

AREA (IN '000 HECTARES)

TYPE OF CROP	SIZE OF HOLDING IN HECTARES							TOTAL
	UNDER 0.10	0.10-0.50	0.51-1.00	1.01-2.00	2.01-5.00	5.01-10.00	10.01 & ABOVE	
CEREALS	20.65	133.29	43.85	24.44	19.16	3.53	-	244.94
Teff	.33	9.44	.66	-	-	-	-	10.43
Barley	2.63	11.33	.66	-	-	-	-	14.62
Wheat	.03	.40	-	-	-	-	-	.43
Maize	16.70	101.55	29.55	19.06	11.41	3.53	-	181.81
Sorghum	.83	9.22	12.98	5.38	7.75	-	-	36.17
Millet	.13	1.35	-	-	-	-	-	1.48
Oats	-	-	-	-	-	-	-	-
PULSES	5.46	20.98	1.91	-	-	-	-	28.35
Horse Beans	.14	.03	-	-	-	-	-	.17
Field Peas	.14	.32	.27	-	-	-	-	.73
Haricot Beans	5.18	20.63	1.64	-	-	-	-	27.45
Chick Peas	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-
OTHERS	.09	.06	-	-	-	-	-	.15
Neug	-	-	-	-	-	-	-	-
Lin Seed	-	.06	-	-	-	-	-	.06
Rape seed	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-
Ground Nuts	-	-	-	-	-	-	-	-
Sun Flower	.09	-	-	-	-	-	-	.09
Sesame	-	-	-	-	-	-	-	-
Castor Bean	-	-	-	-	-	-	-	-
ALL CROPS	26.20	154.33	45.76	24.44	19.16	3.53	-	273.44

TABLE 4.9

ESTIMATE OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

GAMBELA

AREA (IN '000 HECTARES)

TYPE OF CROP	SIZE OF HOLDING IN HECTARES							TOTAL
	UNDER 0.10	0.10-0.50	0.51-1.00	1.01-2.00	2.01-5.00	5.01-10.00	10.01 & ABOVE	
CEREALS	.04	.85	.61	.05	.05	-	-	1.60
Teff	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-
Maize	.04	.82	.61	.05	.05	-	-	1.57
Sorghum	-	.03	-	-	-	-	-	.03
Millet	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-
PULSES	-	-	-	-	-	-	-	.01
Horse Beans	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-
Haricot Beans	-	-	-	-	-	-	-	.01
Chick Peas	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-
ALL CROPS	.04	.85	.61	.05	.05	-	-	1.61

TABLE 4.10 HARARI

AREA (IN '000 HECTARES)

TYPE OF CROP	SIZE OF HOLDING IN HECTARES							TOTAL
	UNDER 0.10	0.10-0.50	0.51-1.00	1.01-2.00	2.01-5.00	5.01-10.00	10.01 & ABOVE	
CEREALS	-	.02	-	-	-	-	-	.02
Teff	-	-	-	-	-	-	-	-
Barley	-	.01	-	-	-	-	-	.01
Wheat	-	-	-	-	-	-	-	-
Maize	-	.01	-	-	-	-	-	.01
Sorghum	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-
PULSES	.01	.18	.07	-	-	-	-	.26
Horse Beans	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-
Haricot Beans	.01	.18	.07	-	-	-	-	.26
Chick Peas	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-
ALL CROPS	.01	.20	.07	-	-	-	-	.28

TABLE 4.11

ESTIMATE OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

ADDIS ABABA

AREA (IN '000 HECTARES)

TYPE OF CROP	SIZE OF HOLDING IN HECTARES							TOTAL
	UNDER 0.10	0.10-0.50	0.51-1.00	1.01-2.00	2.01-5.00	5.01-10.00	10.01 & ABOVE	
CEREALS	-	.02	-	-	-	-	-	.02
Teff	-	-	-	-	-	-	-	-
Barley	-	.02	-	-	-	-	-	.02
Wheat	-	-	-	-	-	-	-	-
Maize	-	-	-	-	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-
ALL CROPS	-	.02	-	-	-	-	-	.02

TABLE 4.12

ESTIMATE OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN ETHIOPIA
1996/97(1989 E.C.)

DIRE DAWA

AREA (IN '000 HECTARES)

TYPE OF CROP	SIZE OF HOLDING IN HECTARES							TOTAL
	UNDER 0.10	0.10-0.50	0.51-1.00	1.01-2.00	2.01-5.00	5.01-10.00	10.01 & ABOVE	
CEREALS	.02	.25	.02	-	-	-	-	.30
Teff	-	-	-	-	-	-	-	-
Barley	-	.01	-	-	-	-	-	.02
Wheat	-	.01	-	-	-	-	-	.01
Maize	.02	.20	.02	-	-	-	-	.24
Sorghum	-	.03	-	-	-	-	-	.03
Millet	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-
ALL CROPS	.02	.25	.02	-	-	-	-	.30

2.2 DISTRIBUTION OF AREA UNDER DIFFERENT FARM MANAGEMENT PRACTICES BY AREA SIZE GROUPS.

According to the survey results, the total land area under different farm management practices was estimated to be 223.34 thousand hectares (i.e. 25.94% of the total belg crop area). Of this total, the highest 60.37% land area under improved farm management practices was exercised by area size group 2. Second and third by rank were area size groups 3 and 1, covering 18.98% and 9.94% respectively (for details see Summary Table F.).

SUMMARY TABLE F. ESTIMATES OF TOTAL AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES BY AREA SIZE GROUPS FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, 1996/1997 (1989 E.C.)

Area size groups in hectar	Total belg crop area		Area under impr. farm management practices	
	'000 ha	%	'000 ha	%
Under 0.10	96.32	11.18	22.20	9.94
0.10-0.50	560.79	65.12	134.85	60.37
0.51-1.00	134.01	15.56	42.40	18.98
1.01-2.00	35.93	4.17	9.51	4.26
2.01-5.00	25.42	2.95	9.17	4.10
5.01-10.00	3.53	0.41	-	-
10.01 & above	5.25	0.61	5.25	2.35
TOTAL	861.35	100.00	223.38	100.00

TABLE 5.1 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES BY SIZE OF HOLDINGS FOR BELG SEASON OF PRIVATE HOLDINGS IN ETHIOPIA 1996/97(1989 E.C.)

ETHIOPIA

AREA (IN '000 HECTARES)

SIZE OF HOLDING (IN HECTARES)	IRRIGATED AREA	%	IMPROVED SEEDS APPLIED AREA	%	FERTILIZER APPLIED AREA								PESTICIDES APPLIED AREA	%
					TOTAL	%	NATURAL	%	COMMER.	%	NAT + COM	%		
UNDER 0.10	5.58	12.22	.36	4.40	15.43	10.48	-	-	-	-	15.43	10.48	.82	3.69
0.10 - 0.50	26.91	58.94	5.29	64.59	90.56	61.49	-	-	-	-	90.56	61.49	12.09	54.34
0.51 - 1.00	6.50	14.24	1.00	12.21	27.28	18.52	-	-	-	-	27.28	18.52	7.63	34.29
1.01 - 2.00	-	-	1.54	18.80	6.26	4.25	-	-	-	-	6.26	4.25	1.71	7.69
2.01 - 5.00	1.42	3.11	-	-	7.75	5.26	-	-	-	-	7.75	5.26	-	-
5.01 -10.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.01 AND OVER	5.25	11.50	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	45.66	100.00	8.19	100.00	147.28	100.00	-	-	-	-	147.28	100.00	22.25	100.00

TABLE 5.2 TIGRAY

AREA (IN '000 HECTARES)

SIZE OF HOLDING (IN HECTARES)	IRRIGATED AREA	%	IMPROVED SEEDS APPLIED AREA	%	FERTILIZER APPLIED AREA								PESTICIDES APPLIED AREA	%
					TOTAL	%	NATURAL	%	COMMER.	%	NAT + COM	%		
UNDER 0.10	.97	60.25	-	-	-	-	-	-	-	-	-	-	.08	100.00
0.10 - 0.50	.64	39.75	.71	100.00	.16	100.00	-	-	-	-	.16	100.00	-	-
0.51 - 1.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.01 - 2.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.01 - 5.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.01 -10.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.01 AND OVER	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	1.61	100.00	.71	100.00	.16	100.00	-	-	-	-	.16	100.00	.08	100.00

TABLE 5.3 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES BY SIZE OF HOLDINGS FOR BELG SEASON OF PRIVATE HOLDINGS IN ETHIOPIA 1996/97(1989 E.C.)

AMHARA

AREA (IN '000 HECTARES)

SIZE OF HOLDING (IN HECTARES)	IRRIGATED AREA	%	IMPROVED SEEDS APPLIED AREA	%	FERTILIZER APPLIED AREA								PESTICIDES APPLIED AREA	%	
					TOTAL	%	NATURAL	%	COMMER.	%	NAT + COM	%			
UNDER 0.10	2.17	18.94	-	-	1.47	10.03	-	-	-	-	-	1.47	10.03	.23	37.10
0.10 - 0.50	6.83	59.60	-	-	6.97	47.54	-	-	-	-	-	6.97	47.54	.39	62.90
0.51 - 1.00	2.46	21.47	-	-	6.22	42.43	-	-	-	-	-	6.22	42.43	-	-
1.01 - 2.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.01 - 5.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.01 -10.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.01 AND OVER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	11.46	100.00	-	-	14.66	100.00	-	-	-	-	-	14.66	100.00	.62	100.00

TABLE 5.4 OROMIA

AREA (IN '000 HECTARES)

SIZE OF HOLDING (IN HECTARES)	IRRIGATED AREA	%	IMPROVED SEEDS APPLIED AREA	%	FERTILIZER APPLIED AREA								PESTICIDES APPLIED AREA	%	
					TOTAL	%	NATURAL	%	COMMER.	%	NAT + COM	%			
UNDER 0.10	2.14	8.29	.13	2.75	5.50	9.97	-	-	-	-	-	5.50	9.97	.26	1.29
0.10 - 0.50	15.50	60.08	2.15	45.45	41.84	75.87	-	-	-	-	-	41.84	75.87	10.60	52.48
0.51 - 1.00	1.86	7.21	.94	19.87	6.10	11.06	-	-	-	-	-	6.10	11.06	7.63	37.77
1.01 - 2.00	-	-	1.51	31.92	1.71	3.10	-	-	-	-	-	1.71	3.10	1.71	8.47
2.01 - 5.00	1.05	4.07	-	-	-	-	-	-	-	-	-	-	-	-	-
5.01 -10.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.01 AND OVER	5.25	20.35	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	25.80	100.00	4.73	100.00	55.15	100.00	-	-	-	-	-	55.15	100.00	20.20	100.00

TABLE 5.5 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES BY SIZE OF HOLDINGS FOR BELG SEASON OF PRIVATE HOLDINGS IN ETHIOPIA 1996/97(1989 E.C.)

SOMALE

AREA (IN '000 HECTARES)

SIZE OF HOLDING (IN HECTARES)	IRRIGATED AREA	%	IMPROVED SEEDS APPLIED AREA	%	FERTILIZER APPLIED AREA								PESTICIDES APPLIED AREA	%
					TOTAL	%	NATURAL	%	COMMER.	%	NAT + COM	%		
UNDER 0.10	.01	7.69	-	-	.07	5.38	-	-	-	-	.07	5.38	-	-
0.10 - 0.50	.12	92.31	.06	100.00	.86	66.15	-	-	-	-	.86	66.15	-	-
0.51 - 1.00	-	-	-	-	.37	28.46	-	-	-	-	.37	28.46	-	-
1.01 - 2.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.01 - 5.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.01 -10.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.01 AND OVER	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.13	100.00	.06	100.00	1.30	100.00	-	-	-	-	1.30	100.00	-	-

TABLE 5.6 BENSHEANGUL GUMEZ

AREA (IN '000 HECTARES)

SIZE OF HOLDING (IN HECTARES)	IRRIGATED AREA	%	IMPROVED SEEDS APPLIED AREA	%	FERTILIZER APPLIED AREA								PESTICIDES APPLIED AREA	%
					TOTAL	%	NATURAL	%	COMMER.	%	NAT + COM	%		
UNDER 0.10	.06	6.32	.01	100.00	.02	7.41	-	-	-	-	.02	7.41	-	-
0.10 - 0.50	.52	54.74	-	-	.25	92.59	-	-	-	-	.25	92.59	-	-
0.51 - 1.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.01 - 2.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.01 - 5.00	.37	38.95	-	-	-	-	-	-	-	-	-	-	-	-
5.01 -10.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.01 AND OVER	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.95	100.00	.01	100.00	.27	100.00	-	-	-	-	.27	100.00	-	-

TABLE 5.7 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES BY SIZE OF HOLDINGS FOR BELG SEASON OF PRIVATE HOLDINGS IN ETHIOPIA 1996/97(1989 E.C.)

(S.N.N.P.R)

AREA (IN '000 HECTARES)

SIZE OF HOLDING (IN HECTARES)	IRRIGATED AREA	%	IMPROVED SEEDS APPLIED AREA	%	FERTILIZER APPLIED AREA								PESTICIDES APPLIED AREA	%
					TOTAL	%	NATURAL	%	COMMER.	%	NAT + COM	%		
UNDER 0.10	.22	3.94	.21	8.54	8.37	11.11	-	-	-	-	8.37	11.11	.25	19.23
0.10 - 0.50	3.21	57.42	2.25	91.46	40.22	53.36	-	-	-	-	40.22	53.36	1.05	80.77
0.51 - 1.00	2.16	38.64	-	-	14.50	19.24	-	-	-	-	14.50	19.24	-	-
1.01 - 2.00	-	-	-	-	4.53	6.01	-	-	-	-	4.53	6.01	-	-
2.01 - 5.00	-	-	-	-	7.75	10.28	-	-	-	-	7.75	10.28	-	-
5.01 -10.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.01 AND OVER	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	5.59	100.00	2.46	100.00	75.37	100.00	-	-	-	-	75.37	100.00	1.30	100.00

TABLE 5.8 GAMBELA

AREA (IN '000 HECTARES)

SIZE OF HOLDING (IN HECTARES)	IRRIGATED AREA	%	IMPROVED SEEDS APPLIED AREA	%	FERTILIZER APPLIED AREA								PESTICIDES APPLIED AREA	%
					TOTAL	%	NATURAL	%	COMMER.	%	NAT + COM	%		
UNDER 0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.10 - 0.50	-	-	.10	55.56	.10	55.56	-	-	-	-	.10	55.56	.06	100.00
0.51 - 1.00	-	-	.06	33.33	.06	33.33	-	-	-	-	.06	33.33	-	-
1.01 - 2.00	-	-	.02	11.11	.02	11.11	-	-	-	-	.02	11.11	-	-
2.01 - 5.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.01 -10.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.01 AND OVER	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	-	-	.18	100.00	.18	100.00	-	-	-	-	.18	100.00	.06	100.00

TABLE 5.9 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES BY SIZE OF HOLDINGS FOR BELG SEASON OF PRIVATE HOLDINGS IN ETHIOPIA 1996/97(1989 E.C.)

HARARI

AREA (IN '000 HECTARES)

SIZE OF HOLDING (IN HECTARES)	IRRIGATED AREA	%	IMPROVED SEEDS APPLIED AREA	%	FERTILIZER APPLIED AREA								PESTICIDES APPLIED AREA	%
					TOTAL	%	NATURAL	%	COMMER.	%	NAT + COM	%		
UNDER 0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.10 - 0.50	.01	100.00	-	-	.04	80.00	-	-	-	-	.04	80.00	-	-
0.51 - 1.00	-	-	-	-	.01	20.00	-	-	-	-	.01	20.00	-	-
1.01 - 2.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.01 - 5.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.01 -10.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.01 AND OVER	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.01	100.00	-	-	.05	100.00	-	-	-	-	.05	100.00	-	-

TABLE 5.10 DIRE DAWA

AREA (IN '000 HECTARES)

SIZE OF HOLDING (IN HECTARES)	IRRIGATED AREA	%	IMPROVED SEEDS APPLIED AREA	%	FERTILIZER APPLIED AREA								PESTICIDES APPLIED AREA	%
					TOTAL	%	NATURAL	%	COMMER.	%	NAT + COM	%		
UNDER 0.10	.01	9.09	-	-	-	-	-	-	-	-	-	-	-	-
0.10 - 0.50	.08	72.73	.01	100.00	.12	85.71	-	-	-	-	.12	85.71	-	-
0.51 - 1.00	.02	18.18	-	-	.02	14.29	-	-	-	-	.02	14.29	-	-
1.01 - 2.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.01 - 5.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.01 -10.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.01 AND OVER	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.11	100.00	.01	100.00	.14	100.00	-	-	-	-	.14	100.00	-	-

SECTION 3.

3. TOTAL NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE of IMPROVED FARM MANAGEMENT PRACTICES BY AGE.

For the purpose of preparing this report belg crop producing holders' ages have been categorized in to nine groups, as follows:-

The group categories by age

- group 1 - under 18 years
- group 2 - 18 - 20 years
- group 3 - 21 - 24 years
- group 4 - 25 - 29 years
- group 5 - 30 - 39 years
- group 6 - 40 - 49 years
- group 7 - 50 - 59 years
- group 8 - 60 years & above
- group 9 - not stated

Based on the survey results, a total of 4.76 million holders were engaged in the over all belg season agricultural activities in 1996/97 (1989 E.C.) belg season. As mentioned above, these holders are categorized in to nine age groups based on the age of the holder. Accordingly, the highest number 1,313,260 (27.57%) of holders were estimated to fall in the age group 30 - 39. The second (23.59%) and third (15.10%) highest number of holders fall in the age groups 40 - 49 and 60 and above , respectively. (See summary Table G)

Moreover , it was estimated that a total of 349,020 belg crop producing holders (about 7.33% of the total) reported the use of improved farm management practices. Among belg producing holders the highest number of holders 69.23% reported to use irrigation while 21.24% and 9.53% of them reported to use pesticides and improved seeds, respectively (see Table 7.1)

SUMMARY TABLE G. ESTIMATES OF TOTAL NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF FARM MANAGEMENT PRACTICES BY AGE FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, 1996/1997 (1989 E.C.)

AGE OF HOLDERS IN YEARS	TOTAL NUMBER OF BELG CROP PRODUCING HOLDERS IN		NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF FARM MANAGEMENT PRACTICES	
	'000	%	'000	%
UNDER 18	17.38	0.36	-	-
18 - 20	75.90	1.59	2.10	0.60
21 - 24	215.96	4.53	10.56	3.03
25 - 29	581.10	12.20	42.69	12.23
30 - 39	1313.26	27.57	85.28	24.43
40 - 49	1123.64	23.59	94.26	27.01
50 - 59	708.41	14.87	64.08	18.36
60 & ABOVE	719.47	15.10	49.21	14.10
NOT STATED	8.11	0.17	0.84	0.24
TOTAL	4763.23	100.00	349.02	100.00

TABLE 6.1 ESTIMATES OF TOTAL NUMBER OF HOLDERS BY AGE OF HOLDER AND TYPE OF HOLDING DURING 1996/97(1989 E.C.)
BELG CROP PRODUCTION SEASON FOR PRIVATE HOLDINGS IN ETHIOPIA

ETHIOPIA

NUMBER IN THOUSANDS

AGE OF HOLDERS IN YEARS	TOTAL NUMBER OF HOLDERS ENGAGED						TOTAL NUMBER OF HOLDERS	%
	WITH CROP ONLY	%	WITH LIVESTOCK ONLY	%	WITH CROP & LIVESTOCK	%		
UNDER 18	5.96	1.26	-	-	11.42	.27	17.38	.36
18 - 20	8.21	1.74	-	-	67.69	1.58	75.90	1.59
21 - 24	32.30	6.83	-	-	183.66	4.28	215.96	4.53
25 - 29	86.25	18.25	-	-	494.85	11.53	581.10	12.20
30 - 39	147.42	31.19	-	-	1,165.84	27.17	1,313.26	27.57
40 - 49	81.78	17.30	-	-	1,041.86	24.28	1,123.64	23.59
50 - 59	61.51	13.01	-	-	646.90	15.08	708.41	14.87
60 & ABOVE	49.26	10.42	-	-	670.21	15.62	719.47	15.10
NOT STATED	-	-	-	-	8.11	.19	8.11	.17
TOTAL	472.69	100.00	-	-	4,290.54	100.00	4,763.23	100.00

TABLE 6.2 ESTIMATE OF TOTAL NUMBER OF HOLDERS BY TYPE OF HOLDING AND REGION DURING 1996/97(1989 E.C.)

BELG CROP PRODUCTION SEASON FOR PRIVATE HOLDINGS IN ETHIOPIA

NUMBER IN THOUSANDS

REGION	NUMBER OF HOLDERS						TOTAL NUMBER OF HOLDERS	
	WITH CROP ONLY	%	WITH LIVESTOCK ONLY	%	WITH CROP & LIVESTOCK	%	NUMBER OF HOLDERS	%
TIGRAY	11.99	2.54	-	-	59.85	1.39	71.84	1.51
AFAR	-	-	-	-	-	-	-	-
AMHARA	92.77	19.63	-	-	824.57	19.22	917.34	19.26
OROMIYA	222.97	47.17	-	-	1,974.30	46.02	2,197.27	46.13
SOMALIE	6.82	1.44	-	-	81.29	1.89	88.11	1.85
BENSHANGUL-GUMUZ	2.32	.49	-	-	51.74	1.21	54.06	1.13
S.N.N.P.	133.62	28.27	-	-	1,289.72	30.06	1,423.34	29.88
GAMBELA	1.99	.42	-	-	6.21	.14	8.20	.17
HARARI	.16	.03	-	-	1.08	.03	1.24	.03
ADDIS ABABA	-	-	-	-	.06	-	.06	-
DIRE DAWA	.06	.01	-	-	1.71	.04	1.77	.04
TOTAL N° OF HOLDERS	472.70	100.00	-	-	4,290.53	100.00	4,763.23	100.00

TABLE 7.1 ESTIMATE OF TOTAL NUMBER OF HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES BY AGE OF HOLDERS FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, 1996/97(1989 E.C.)

ETHIOPIA

NUMBER IN THOUSANDS

AGE OF HOLDERS' IN YEARS	NUMBER OF HOLDERS' REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZERS	COMMER. FERTILIZERS	BOTH NAT + COM	PESTICIDES
UNDER 18	-	-	4.00	-	-	-
18 - 20	2.10	-	6.11	-	-	-
21 - 24	8.53	.90	19.22	-	-	1.13
25 - 29	26.80	5.77	50.50	-	-	10.12
30 - 39	58.07	10.49	116.63	-	-	16.72
40 - 49	64.17	3.62	103.97	-	-	26.47
50 - 59	42.72	8.79	46.59	-	-	12.57
60 & ABOVE	38.89	3.68	57.93	-	-	6.64
NOT STATED	.36	-	-	-	-	.48
TOTAL	241.64	33.25	404.95	-	-	74.13

TABLE 7.2 ESTIMATE OF TOTAL NUMBER OF HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES BY AGE OF HOLDERS FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, 1996/97(1989 E.C.)

TIGRAY

NUMBER IN THOUSANDS

AGE OF HOLDERS' IN YEARS	NUMBER OF HOLDERS' REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZERS	COMMER. FERTILIZERS	BOTH NAT + COM	PESTICIDES
UNDER 18	-	-	-	-	-	-
18 - 20	-	-	-	-	-	-
21 - 24	1.37	-	-	-	-	-
25 - 29	1.73	-	-	-	-	-
30 - 39	5.78	3.08	-	-	-	-
40 - 49	4.06	-	-	-	-	-
50 - 59	5.42	-	-	-	-	1.31
60 & ABOVE	4.35	-	-	-	-	-
NOT STATED	-	-	-	-	-	-
TOTAL	22.71	3.08	-	-	-	1.31

TABLE 7.3. ESTIMATE OF TOTAL NUMBER OF HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES BY AGE OF HOLDERS FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, 1996/97(1989 E.C.)

AMHARA

NUMBER IN THOUSANDS

AGE OF HOLDERS' IN YEARS	NUMBER OF HOLDERS' REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZERS	COMMER. FERTILIZERS	BOTH NAT + COM	PESTICIDES
UNDER 18	-	-	-	-	-	-
18 - 20	.36	-	-	-	-	-
21 - 24	3.86	-	-	-	-	-
25 - 29	3.35	-	1.81	-	-	-
30 - 39	17.16	-	5.11	-	-	-
40 - 49	27.30	-	10.35	-	-	3.81
50 - 59	13.88	-	3.61	-	-	-
60 & ABOVE	14.32	-	8.69	-	-	.85
NOT STATED	.36	-	-	-	-	-
TOTAL	80.59	-	29.57	-	-	4.66

TABLE 7.4 ESTIMATE OF TOTAL NUMBER OF HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES BY AGE OF HOLDERS FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, 1996/97(1989 E.C.)

OROMIA

NUMBER IN THOUSANDS

AGE OF HOLDERS' IN YEARS	NUMBER OF HOLDERS' REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZERS	COMMER. FERTILIZERS	BOTH NAT + COM	PESTICIDES
UNDER 18	-	-	-	-	-	-
18 - 20	1.74	-	3.02	-	-	-
21 - 24	3.07	.90	7.58	-	-	1.13
25 - 29	17.36	1.69	20.43	-	-	8.87
30 - 39	22.08	2.03	43.22	-	-	14.17
40 - 49	23.33	1.62	35.43	-	-	18.76
50 - 59	22.75	6.37	22.72	-	-	10.45
60 & ABOVE	19.14	1.47	21.66	-	-	5.01
NOT STATED	-	-	-	-	-	.48
TOTAL	109.47	14.08	154.06	-	-	58.87

TABLE 7.5 ESTIMATE OF TOTAL NUMBER OF HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES BY AGE OF HOLDERS FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, 1996/97(1989 E.C.)

SOMALE

NUMBER IN THOUSANDS

AGE OF HOLDERS' IN YEARS	NUMBER OF HOLDERS' REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZERS	COMMER. FERTILIZERS	BOTH NAT + COM	PESTICIDES
UNDER 18	-	-	.16	-	-	-
18 - 20	-	-	-	-	-	-
21 - 24	.18	-	.32	-	-	-
25 - 29	.45	-	.31	-	-	-
30 - 39	.36	.18	1.65	-	-	-
40 - 49	.18	-	1.01	-	-	-
50 - 59	-	-	.15	-	-	-
60 & ABOVE	-	-	.94	-	-	-
NOT STATED	-	-	-	-	-	-
TOTAL	1.17	.18	4.54	-	-	-

TABLE 7.6 ESTIMATE OF TOTAL NUMBER OF HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES BY AGE OF HOLDERS FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, 1996/97(1989 E.C.)

BENSHANGUL GUMEZ

NUMBER IN THOUSANDS

AGE OF HOLDERS' IN YEARS	NUMBER OF HOLDERS' REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZERS	COMMER. FERTILIZERS	BOTH NAT + COM	PESTICIDES
UNDER 18	-	-	-	-	-	-
18 - 20	-	-	-	-	-	-
21 - 24	-	-	-	-	-	-
25 - 29	.15	-	.15	-	-	-
30 - 39	.71	-	.64	-	-	-
40 - 49	.89	.15	.36	-	-	-
50 - 59	.59	-	.64	-	-	-
60 & ABOVE	.30	-	-	-	-	-
NOT STATED	-	-	-	-	-	-
TOTAL	2.64	.15	1.79	-	-	-

TABLE 7.7 ESTIMATE OF TOTAL NUMBER OF HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES BY AGE OF HOLDERS FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, 1996/97(1989 E.C.)

(S.N.N.P.R)

NUMBER IN THOUSANDS

AGE OF HOLDERS' IN YEARS	NUMBER OF HOLDERS' REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZERS	COMMER. FERTILIZERS	BOTH NAT + COM	PESTICIDES
UNDER 18	-	-	3.85	-	-	-
18 - 20	-	-	3.09	-	-	-
21 - 24	-	-	11.32	-	-	-
25 - 29	3.72	3.98	27.74	-	-	1.21
30 - 39	11.67	5.15	65.79	-	-	2.50
40 - 49	8.29	1.81	56.68	-	-	3.89
50 - 59	-	2.34	19.29	-	-	.76
60 & ABOVE	.66	2.13	26.52	-	-	.76
NOT STATED	-	-	-	-	-	-
TOTAL	24.34	15.41	214.28	-	-	9.12

TABLE 7.8 ESTIMATE OF TOTAL NUMBER OF HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES BY AGE OF HOLDERS FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, 1996/97(1989 E.C.)

GAMBELA

NUMBER IN THOUSANDS

AGE OF HOLDERS' IN YEARS	NUMBER OF HOLDERS' REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZERS	COMMER. FERTILIZERS	BOTH NAT + COM	PESTICIDES
UNDER 18	-	-	-	-	-	-
18 - 20	-	-	-	-	-	-
21 - 24	-	-	-	-	-	-
25 - 29	-	.10	-	-	-	.05
30 - 39	-	.05	-	-	-	.03
40 - 49	-	.04	-	-	-	.02
50 - 59	-	.08	-	-	-	.05
60 & ABOVE	-	.07	-	-	-	.02
NOT STATED	-	-	-	-	-	-
TOTAL	-	.34	-	-	-	.17

TABLE 7.9 ESTIMATE OF TOTAL NUMBER OF HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES BY AGE OF HOLDERS FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, 1996/97(1989 E.C.)

HARARI

NUMBER IN THOUSANDS

AGE OF HOLDERS' IN YEARS	NUMBER OF HOLDERS' REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZERS	COMMER. FERTILIZERS	BOTH NAT + COM	PESTICIDES
UNDER 18	-	-	-	-	-	-
18 - 20	-	-	-	-	-	-
21 - 24	.02	-	-	-	-	-
25 - 29	-	-	-	-	-	-
30 - 39	-	-	.03	-	-	-
40 - 49	.02	-	.03	-	-	-
50 - 59	-	-	.04	-	-	-
60 & ABOVE	-	-	-	-	-	-
NOT STATED	-	-	-	-	-	-
TOTAL	.04	-	.10	-	-	-

ESTIMATION PROCEDURES OF TOTAL AND

TABLE 7.10 ESTIMATE OF TOTAL NUMBER OF HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES BY AGE OF HOLDERS FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, 1996/97(1989 E.C.)

DIRE DAWA

NUMBER IN THOUSANDS

AGE OF HOLDERS' IN YEARS	NUMBER OF HOLDERS' REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZERS	COMMER. FERTILIZERS	BOTH NAT + COM	PESTICIDES
UNDER 18	-	-	-	-	-	-
18 - 20	-	-	-	-	-	-
21 - 24	.03	-	.01	-	-	-
25 - 29	.04	-	.08	-	-	-
30 - 39	.31	.01	.19	-	-	.02
40 - 49	.12	-	.10	-	-	-
50 - 59	.08	-	.15	-	-	-
60 & ABOVE	.13	.02	.12	-	-	-
NOT STATED	-	-	-	-	-	-
TOTAL	.71	.03	.65	-	-	.02

ANNEX 1 - ESTIMATION PROCEDURES OF TOTAL AND SAMPLING ERROR

The following formula are used to estimate total area of land or specific crop where a certain agricultural input was applied in a given stratum.

All information on bany season agricultural activities collected using subjective methods, by interviewing a farmer in the sample of agricultural households. Hence the data for major bany season crops were usually reported in local units. There fore one has to note that before applying estimation procedures

given here below, the reported area under a specific crop and certain agricultural input was applied has to be converted in standard units using conversion coefficients.

Estimated Area

APPENDIX I

ESTIMATION PROCEDURES OF TOTAL AND SAMPLING ERROR

$$W_h = \frac{N_h}{N}$$

is the weight

- N represents the stratum.
- N_h is the total number of the selected in h^{th} stratum.
- n_h is the measure of size of the h^{th} stratum obtained from the sampling frame.
- n_{h1} is the measure of size of the 1^{st} sample h_1 in the h^{th} stratum obtained from the sampling frame.

APPENDIX I - ESTIMATION PROCEDURES OF TOTAL AND SAMPLING ERRORS

The following formula are used to estimate total area of land under specific crop where a certain agricultural input was applied on in a given stratum.

Note:- All information on belg season agricultural activities were collected using subjective methods, by interviewing each holder in the sample 25 agricultural households. Hence the data on area for major belg season crops were usually reported in local units. There fore one has to note that before applying the estimation procedures defined here below, the reported area under a specific crop where a certain agricultural input was applied has to be converted in to standard units using conversion equivalents.

1. Estimating Area

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

in which

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

is the weight

Where

h represents the stratum.

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

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

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

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

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

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

2. To Estimate Quantity of Fertilizer

$$\hat{Q}_h = \sum_{i=1}^{n_h} W_{hi} q_{hi}$$

in which

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

is the weight given above.

where

\hat{Q}_h is estimate of total quantity of a specific fertilizer applied for a specific crop land in the h^{th} stratum.

q_{hi} is the sample total of quantity of a specific fertilizer applied for a specific crop land in the i^{th} EA in the h^{th} stratum.

3. 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.

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

In estimating 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 simplifies the estimation procedures. Further more the finite population correction (fpc) is ignored in the formula. This is due to the fact that its effect is negligible

4. Estimating Coefficient of Variance

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

$$CV(\hat{A}_h) = \frac{\sqrt{\text{var}(\hat{A}_h)}}{\hat{A}_h} \times 100\%$$

$$CV(\hat{Q}_h) = \frac{\sqrt{\text{VAR}(\hat{Q}_h)}}{\hat{Q}_h} \times 100\%$$

Regional or national estimates of the total characteristics and sampling variance are obtained by aggregating the respective stratum totals.

TABLE 1.1. Estimates of Area Under the Curve, Mean, and Coefficient of Variation of Standard Error and Coefficient of Variation for Estimation of Yield from Groundwater

Type of Crop	Total Area		Irrigated/Proprietary Area			Unirrigated/Proprietary Area			Proprietary Applicant Area		
	Area (1000 HA)	C.V. (%)	Area (1000 HA)	Yield (T/HA)	C.V. (%)	Area (1000 HA)	Yield (T/HA)	C.V. (%)	Area (1000 HA)	Yield (T/HA)	C.V. (%)
Corn	744.29	28.52	7.38	44.28	36.23	44.28	44.28	44.28	44.28	44.28	44.28
Wheat	771.81	38.42	3.04	35.11	37.8	35.11	35.11	35.11	35.11	35.11	35.11
Soybean	44	44	44	44	44	44	44	44	44	44	44
Maize	44	44	44	44	44	44	44	44	44	44	44
Barley	194.22	32.28	12.72	1.88	2.74	45.26	45.26	45.26	45.26	45.26	45.26
Alfalfa	44	44	44	44	44	44	44	44	44	44	44
Other	1075.84	14.03	12.18	44	44	44	44	44	44	44	44
Unirrigated	4.00	7.54	44.28	44	44	44	44	44	44	44	44
Proprietary	13.85	8.65	62.84	44	44	44	44	44	44	44	44
Unirrigated	21.79	11.02	14.28	44	44	44	44	44	44	44	44
Proprietary	8.23	3.28	44.28	44	44	44	44	44	44	44	44
Unirrigated	4.71	1.88	44.28	44	44	44	44	44	44	44	44
Proprietary	44	44	44	44	44	44	44	44	44	44	44
Unirrigated	4.4	4	44.28	44	44	44	44	44	44	44	44
Proprietary	44.28	44.28	44.28	44.28	44.28	44.28	44.28	44.28	44.28	44.28	44.28
Unirrigated	44.28	44.28	44.28	44.28	44.28	44.28	44.28	44.28	44.28	44.28	44.28
Proprietary	44.28	44.28	44.28	44.28	44.28	44.28	44.28	44.28	44.28	44.28	44.28
Unirrigated	44.28	44.28	44.28	44.28	44.28	44.28	44.28	44.28	44.28	44.28	44.28
Proprietary	44.28	44.28	44.28	44.28	44.28	44.28	44.28	44.28	44.28	44.28	44.28

APPENDIX II

STANDARD ERROR AND COEFFICIENT OF VARIATION FOR ESTIMATES

TABLE 1.1 Estimates Of Area Under Improved Farm Management Practices and Their Standard Error and Coefficient Of Variation For Belg Season Crops Of Private Holdings, 1996/97(1989 E.C.)
ETHIOPIA

Type of Crop	Total Area			Irrigated Applied Area			Improved Seed Applied Area			Fertilizer Applied Area			Pesticide Applied Area		
	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)
Cereals	748.29	56.68	7.58	40.95	9.92	24.23	7.6	3.25	42.74	128.71	26.33	20.45	21.99	8.32	37.85
Teff	70.89	13.56	19.13	**	**	**	**	**	**	**	**	**	**	**	**
Barley	198.22	25.22	12.72	1.62	0.74	45.85	**	**	**	41.73	14.94	35.81	**	**	**
Wheat	46.75	15.92	34.06	**	**	**	**	**	**	4.48	1.55	34.55	**	**	**
Maize	371.81	35.83	9.64	35.11	9.69	27.6	**	**	**	49.4	10.91	22.1	**	**	**
Sorghum	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Millet	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-
Oats	18.63	5.61	30.12	**	**	**	-	-	-	**	**	**	**	**	**
Pulses	106.94	13.03	12.19	**	**	**	**	**	**	18.52	5.22	28.2	**	**	**
Horsebeans	4.02	1.94	48.39	-	-	-	-	-	-	**	**	**	-	-	-
Field Peas	10.85	4.66	42.94	-	-	-	-	-	-	**	**	**	**	**	**
Haricotbeans	76.65	11.02	14.38	**	**	**	**	**	**	17.33	5.17	29.83	**	**	**
Chick Peas	9.55	3.76	39.42	**	**	**	-	-	-	**	**	**	**	**	**
Lentils	4.54	1.63	35.9	**	**	**	-	-	-	-	-	-	-	-	-
Vetch	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-
Others	6.1	3	49.17	**	**	**	**	**	**	**	**	**	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	0.93	0.37	39.16	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	**	**	**	**	**	**	**	**	**	**	**	**	-	-	-
All Crops	861.32	61	7.08	45.66	10.96	24	8.18	3.26	39.8	147.29	27.35	18.57	22.26	8.35	37.53

TABLE 1.2 Estimates Of Area Under Improved Farm Management Practices and Their Standard Error and Coefficient Of Variation For Belg Season Crops Of Private Holdings, 1996/97(1989 E.C.) TIGRAY

Type of Crop	Total Area			Irrigated Applied Area			Improved Seed Applied Area			Fertilizer Applied Area			Pesticide Applied Area		
	Estimate (⁰ 000 HA)	S.E (⁰ 000)	C.V (%)	Estimate (⁰ 000 HA)	S.E (⁰ 000)	C.V (%)	Estimate (⁰ 000 HA)	S.E (⁰ 000)	C.V (%)	Estimate (⁰ 000 HA)	S.E (⁰ 000)	C.V (%)	Estimate (⁰ 000 HA)	S.E (⁰ 000)	C.V (%)
Cereals	11.88	5.22	43.96	1.13	0.52	45.93	**	**	**	**	**	**	**	**	**
Teff	**	**	**	-	-	-	**	**	**	**	**	**	-	-	-
Barley	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	1.21	0.57	46.99	1.13	0.52	45.93	-	-	-	-	-	-	**	**	**
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	**	**	**	**	**	**	-	-	-	-	-	-	**	**	**
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chick Peas	**	**	**	**	**	**	-	-	-	-	-	-	**	**	**
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	12.51	5.02	40.13	**	**	**	**	**	**	**	**	**	**	**	**

TABLE 1.3 Estimates Of Area Under Improved Farm Management Practices and Their Standard Error and Coefficient Of Variation For Belg Season Crops Of Private Holdings, 1996/97(1989 E.C.) AMHARA

Type of Crop	Total Area			Irrigated Applied Area			Improved Seed Applied Area			Fertilizer Applied Area			Pesticide Applied Area		
	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)
Cereals	112.81	14.95	13.26	10.29	2.99	29.1	-	-	-	**	**	**	**	**	**
Teff	30.23	7.23	23.92	**	**	**	-	-	-	**	**	**	-	-	-
Barley	66.39	15.94	24.01	**	**	**	-	-	-	**	**	**	**	**	**
Wheat	4.42	1.33	30.02	**	**	**	-	-	-	-	-	-	-	-	-
Maize	7.98	2.82	35.31	5.18	2.22	42.88	-	-	-	**	**	**	**	**	**
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	3.79	1.53	40.25	**	**	**	-	-	-	**	**	**	-	-	-
Pulses	12.97	3.87	29.81	**	**	**	-	-	-	**	**	**	**	**	**
Horsebeans	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	2.52	1.1	43.79	-	-	-	-	-	-	-	-	-	**	**	**
Haricotbeans	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-
Chick Peas	7.23	3.33	46.1	-	-	-	-	-	-	**	**	**	-	-	-
Lentils	2.56	1.03	40.32	**	**	**	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	**	**	**	**	**	**	-	-	-	**	**	**	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	**	**	**	**	**	**	-	-	-	**	**	**	-	-	-
All Crops	126.94	15.69	12.36	11.46	3.47	30.27	-	-	-	**	**	**	**	**	**

TABLE 1.4 Estimates Of Area Under Improved Farm Management Practices and Their Standard Error and Coefficient Of Variation For Belg Season Crops Of Private Holdings, 1996/97(1989 E.C.)
 OROMIA

Type of Crop	Total Area			Irrigated Applied Area			Improved Seed Applied Area			Fertilizer Applied Area			Pesticide Applied Area		
	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)
Cereals	351.96	38.36	10.9	22.74	8.58	37.72	**	**	**	49.15	14.42	29.34	20.03	8.28	41.34
Teff	19.56	9.03	46.17	—	—	—	**	**	**	**	**	**	**	**	**
Barley	116.72	18.67	15.99	**	**	**	—	—	—	26.29	11.69	44.48	**	**	**
Wheat	41.42	15.87	38.31	—	—	—	**	**	**	4.47	1.55	34.65	**	**	**
Maize	155.83	24.94	16.01	22.03	8.55	38.79	**	**	**	12.17	3.22	26.43	**	**	**
Sorghum	**	**	**	—	—	—	—	—	—	—	—	—	**	**	**
Millet	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Oats	14.84	5.4	36.39	**	**	**	—	—	—	**	**	**	**	**	**
Pulses	49.48	10.39	21	**	**	**	**	**	**	6.01	2.63	43.81	**	**	**
Horsebeans	**	**	**	—	—	—	—	—	—	**	**	**	—	—	—
Field Peas	**	**	**	—	—	—	—	—	—	**	**	**	**	**	**
Haricotbeans	33.23	8.62	25.94	**	**	**	**	**	**	**	**	**	**	**	**
Chick Peas	**	**	**	**	**	**	—	—	—	—	—	—	—	—	—
Lentils	**	**	**	—	—	—	—	—	—	—	—	—	—	—	—
Vetch	**	**	**	**	**	**	—	—	—	—	—	—	—	—	—
Others	**	**	**	—	—	—	**	**	**	—	—	—	—	—	—
Neug	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Linseed	0.72	0.35	48.97	—	—	—	—	—	—	—	—	—	—	—	—
Rapeseed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Groundnuts	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sunflower	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sesame	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fenugreek	**	**	**	—	—	—	**	**	**	—	—	—	—	—	—
All Crops	406.22	43.94	10.82	25.8	9.57	37.11	**	**	**	55.15	14.96	27.13	20.2	8.31	41.13

TABLE 1.5 Estimates Of Area Under Improved Farm Management Practices and Their Standard Error and Coefficient Of Variation For Belg Season Crops Of Private Holdings, 1996/97(1989 E.C.)
SOMALIE

Type of Crop	Total Area			Irrigated Applied Area			Improved Seed Applied Area			Fertilizer Applied Area			Pesticide Applied Area		
	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)
Cereals	21.12	5.02	23.77	**	**	**	**	**	**	**	**	**	-	-	-
Teff	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barley	0.43	0.21	48.37	-	-	-	-	-	-	-	-	-	-	-	-
Wheat	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-
Maize	19.52	5.13	26.27	**	**	**	**	**	**	**	**	**	-	-	-
Sorghum	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	22.13	5.45	24.64	**	**	**	**	**	**	**	**	**	-	-	-

TABLE 1.6 Estimates Of Area Under Improved Farm Management Practices and Their Standard Error and Coefficient Of Variation For Belg Season Crops Of Private Holdings, 1996/97(1989 E.C.)
BENSHANGUL – GUMEZ

Type of Crop	Total Area			Irrigated Applied Area			Improved Seed Applied Area			Fertilizer Applied Area			Pesticide Applied Area		
	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)
Cereals	**	**	**	**	**	**	**	**	**	**	**	**	-	-	-
Teff	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	**	**	**	**	**	**	**	**	**	**	**	**	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	14.22	3.32	23.34	-	-	-	-	-	-	**	**	**	-	-	-
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	14.22	3.32	23.34	-	-	-	-	-	-	**	**	**	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	17.88	4.99	27.91	**	**	**	**	**	**	**	**	**	-	-	-

TABLE 1.7 Estimates Of Area Under Improved Farm Management Practices and Their Standard Error and Coefficient Of Variation For Belg Season Crops Of Private Holdings, 1996/97(1989 E.C.)
S.N.N.P.R

Type of Crop	Total Area			Irrigated Applied Area			Improved Seed Applied Area			Fertilizer Applied Area			Pesticide Applied Area		
	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)
Cereals	244.93	38.21	15.6	**	**	**	2.46	0.77	31.26	63.18	19.95	31.58	1.3	0.62	47.68
Teff	10.43	4.25	40.74	-	-	-	-	-	-	**	**	**	**	**	**
Barley	14.62	5.77	39.45	-	-	-	**	**	**	1.62	0.75	46.26	**	**	**
Wheat	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-
Maize	181.81	24.93	13.71	**	**	**	2.41	0.75	31.27	35.34	10.39	29.4	**	**	**
Sorghum	**	**	**	-	-	-	-	-	-	**	**	**	-	-	-
Millet	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	28.35	5.94	20.94	-	-	-	-	-	-	12.19	4.51	36.97	-	-	-
Horsebeans	0.17	0.08	47.45	-	-	-	-	-	-	**	**	**	-	-	-
Field Peas	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	27.45	5.96	21.71	-	-	-	-	-	-	12.18	4.51	36.99	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	273.43	38.26	13.99	**	**	**	2.46	0.77	31.26	75.37	20.91	27.74	1.29	0.62	47.68

TABLE 1.8 Estimates Of Area Under Improved Farm Management Practices and Their Standard Error and Coefficient Of Variation For Belg Season Crops Of Private Holdings, 1996/97(1989 E.C.)
GAMBELA

Type of Crop	Total Area			Irrigated Applied Area			Improved Seed Applied Area			Fertilizer Applied Area			Pesticide Applied Area		
	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)
Cereals	1.61	0.46	28.66	--	--	--	**	**	**	**	**	**	**	**	**
Teff	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Barley	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wheat	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maize	1.57	0.45	28.66	--	--	--	**	**	**	**	**	**	**	**	**
Sorghum	0.03	0.02	49.17	--	--	--	--	--	--	--	--	--	--	--	--
Millet	**	**	**	--	--	--	--	--	--	--	--	--	--	--	--
Oats	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pulses	**	**	**	--	--	--	--	--	--	--	--	--	--	--	--
Horsebeans	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Field Peas	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Haricotbeans	**	**	**	--	--	--	--	--	--	--	--	--	--	--	--
Chick Peas	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lentils	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vetch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Others	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Neug	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Linseed	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rapeseed	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Groundnuts	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sunflower	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sesame	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fenugreek	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All Crops	1.61	0.46	38.51	--	--	--	**	**	**	**	**	**	**	**	**

TABLE 1.9 Estimates Of Area Under Improved Farm Management Practices and Their Standard Error and Coefficient Of Variation For Belg Season Crops Of Private Holdings, 1996/97(1989 E.C.) HARARI

Type of Crop	Total Area			Irrigated Applied Area			Improved Seed Applied Area			Fertilizer Applied Area			Pesticide Applied Area		
	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)
Cereals	**	**	**	**	**	**	-	-	-	**	**	**	-	-	-
Teff	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barley	**	**	**	**	**	**	-	-	-	**	**	**	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	**	**	**	**	**	**	-	-	-	**	**	**	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	0.26	0.1	38.81	**	**	**	-	-	-	**	**	**	-	-	-
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	0.26	0.1	38.81	**	**	**	-	-	-	**	**	**	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	0.28	0.1	34.54	0.05	0.02	36.61	-	-	-	0.05	0.02	36.61	-	-	-

TABLE 1.10 Estimates Of Area Under Improved Farm Management Practices and Their Standard Error and Coefficient Of Variation For Belg Season Crops Of Private Holdings, 1996/97(1989 E.C.)
ADDIS ABABA

Type of Crop	Total Area			Irrigated Applied Area			Improved Seed Applied Area			Fertilizer Applied Area			Pesticide Applied Area		
	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)
Cereals	0.02	0	7.91	-	-	-	-	-	-	-	-	-	-	-	-
Teff	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barley	0.02	0	7.91	-	-	-	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	0.02	0	7.91	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 1.11 Estimates Of Area Under Improved Farm Management Practices and Their Standard Error and Coefficient Of Variation For Belg Season Crops Of Private Holdings, 1996/97(1989 E.C.)
DIREDAWA

Type of Crop	Total Area			Irrigated Applied Area			Improved Seed Applied Area			Fertilizer Applied Area			Pesticide Applied Area		
	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)
Cereals	0.3	0.1	34.44	**	**	**	**	**	**	**	**	**	-	-	-
Teff	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barley	**	**	**	**	**	**	-	-	-	**	**	**	-	-	-
Wheat	0.24	0.08	34.38	-	-	-	-	-	-	**	**	**	-	-	-
Maize	0.03	0.02	48.05	**	**	**	**	**	**	**	**	**	-	-	-
Sorghum	-	-	-	**	**	**	**	**	**	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	0.3	0.1	34.44	**	**	**	**	**	**	**	**	**	-	-	-

TABLE 2.1 Estimates Of Fertilizer Applied Area by type of Fertilizer and their Standard Error and Coefficient of Variation Belg Season Crops of Private Holdings, 1996/97(1989 E.C.)
ETHIOPIA

Type of Crop	Total			Natural			Commercial			Urea			Dap			Dap+Urea			Both(Nat+Com)		
	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)
Cereals	128.71	26.33	20.45	58.34	18.66	31.99	69.46	18.5	26.63	8.83	3.29	37.22	54.77	17.39	31.75	6.58	2.81	42.71	0.9	0.35	38.46
Teff	**	**	**	**	**	**	**	**	**	**	**	**	1.24	0.58	46.33	**	**	**	**	-	-
Barley	41.73	14.94	35.81	3.1	1.05	33.99	38.42	14.92	38.84	3.06	1.24	40.66	33.75	13.9	41.19	**	**	**	**	**	**
Wheat	4.48	1.55	34.55	**	**	**	4.47	1.55	34.65	**	**	**	3.07	1.32	42.91	**	**	**	-	-	-
Maize	49.4	10.91	22.1	39.27	7.63	26.05	19.43	7.64	39.29	**	**	**	**	**	**	2.13	0.81	38.1	0.69	0.31	45.37
Sorghum	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	-	-	-
Pulses	18.52	5.22	28.2	7.54	2.71	35.95	10.98	4.42	40.26	**	**	**	8.51	2.88	33.86	-	-	-	-	-	-
Horsebeans	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	-	-	-	-	-	-
Haricotbeans	17.33	5.17	29.83	6.96	2.67	38.34	10.37	4.38	42.23	**	**	**	7.91	2.82	35.68	-	-	-	-	-	-
Chick Peas	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	147.29	27.35	18.57	65.95	19.13	29.01	80.44	19.63	24.4	11.29	3.83	33.91	63.29	18.35	28.99	6.58	2.81	42.71	0.9	0.35	38.46

TABLE 2.2 Estimates Of Fertilizer Applied Area by type of Fertilizer and their Standard Error and Coefficient of Variation Belg Season Crops of Private Holdings, 1996/97(1989 E.C.)
TIGRAY

Type of Crop	Total			Natural			Commercial			Urea			Dap			Dap+Urea			Both(Nat+Com)		
	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)
Cereals	**	**	**	-	-	-	**	**	**	-	-	-	**	**	**	-	-	-	-	-	-
Teff	**	**	**	-	-	-	**	**	**	-	-	-	**	**	**	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	**	**	**	-	-	-	**	**	**	-	-	-	**	**	**	-	-	-	-	-	-

TABLE 2.3 Estimates Of Fertilizer Applied Area by type of Fertilizer and their Standard Error and Coefficient of Variation Belg Season Crops of Private Holdings, 1996/97(1989 E.C.)
AMHARA

Type of Crop	Total			Natural			Commercial			Urea			Dap			Dap+Urea			Both(Nat+Com)		
	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)
Cereals	112.81	14.95	13.26	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Teff	30.23	7.23	23.92	**	**	**	**	**	**	-	-	-	**	**	**	-	-	-	-	-	-
Barley	66.39	15.94	24.01	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Wheat	4.42	1.33	30.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	7.98	2.82	35.31	**	**	**	**	**	**	-	-	-	**	**	**	-	-	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	3.79	1.53	40.25	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	12.97	3.87	29.81	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Horsebeans	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	2.52	1.1	43.79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chick Peas	7.23	3.33	46.1	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	2.56	1.03	40.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	126.94	15.69	12.36	2.02	0.96	47.79	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**

TABLE 2.4 Estimates Of Fertilizer Applied Area by type of Fertilizer and their Standard Error and Coefficient of Variation Belg Season Crops of Private Holdings, 1996/97(1989 E.C.)

OROMIYA

Type of Crop	Total			Natural			Commercial			Urea			Dap			Dap+Urea			Both(Nat+Com)		
	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)
Cereals	49.15	14.42	29.34	11.33	3.11	27.42	37.68	14.11	37.44	3.98	1.95	49.14	30.52	13.54	44.35	**	**	**	**	**	**
Teff	**	**	**	-	-	-	**	**	**	-	-	-	**	**	**	**	**	**	-	-	-
Barley	26.29	11.69	44.48	1.21	0.39	31.94	25	11.71	46.84	2.1	0.85	40.6	22.64	11.17	49.35	**	**	**	**	**	**
Wheat	4.47	1.55	34.65	-	-	-	4.47	1.55	34.65	**	**	**	3.07	1.32	42.91	**	**	**	-	-	-
Maize	12.17	3.22	26.43	10.12	3.11	30.76	2	0.85	42.38	**	**	**	1.22	0.64	52.56	**	**	**	**	**	**
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	**	**	**	-	-	-	**	**	**	**	**	**	**	**	**	**	**	**	-	-	-
Pulses	6.01	2.63	43.81	5.32	2.57	48.27	**	**	**	-	-	-	**	**	**	-	-	-	-	-	-
Horsebeans	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	**	**	**	**	**	**	**	**	**	-	-	-	**	**	**	-	-	-	-	-	-
Haricotbeans	**	**	**	**	**	**	**	**	**	-	-	-	**	**	**	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	55.15	14.96	27.13	16.65	4.02	24.13	38.37	14.46	37.68	3.98	1.95	49.14	31.21	13.88	44.48	**	**	**	**	**	**

TABLE 2.5 Estimates Of Fertilizer Applied Area by type of Fertilizer and their Standard Error and Coefficient of Variation Belg Season Crops of Private Holdings, 1996/97(1989 E.C.)
SOMALIE

Type of Crop	Total			Natural			Commercial			Urea			Dap			Dap+Urea			Both(Nat+Com)		
	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)
Cereals	**	**	**	**	**	**	**	**	**	-	-	-	**	**	**	-	-	-	-	-	-
Teff	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	**	**	**	**	**	**	**	**	**	-	-	-	**	**	**	-	-	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	**	**	**	**	**	**	**	**	**	-	-	-	**	**	**	-	-	-	-	-	-

TABLE 2.6 Estimates Of Fertilizer Applied Area by type of Fertilizer and their Standard Error and Coefficient of Variation Belg Season Crops of Private Holdings, 1996/97(1989 E.C.)
BENSHANGUL - GUMEZ

Type of Crop	Total			Natural			Commercial			Urea			Dap			Dap+Urea			Both(Nat+Com)		
	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)
Cereals	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Teff	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 2.7 Estimates Of Fertilizer Applied Area by type of Fertilizer and their Standard Error and Coefficient of Variation Belg Season Crops of Private Holdings, 1996/97(1989 E.C.)
S.N.N.P.R.

Type of Crop	Total			Natural			Commercial			Urea			Dap			Dap+Urea			Both(Nat+Com)		
	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)
Cereals	63.18	19.95	31.58	43.73	18.36	41.98	18.81	7.61	40.45	**	**	**	**	**	**	1.93	0.79	40.87	0.64	0.31	48.35
Teff	**	**	**	-	-	-	**	**	**	**	**	**	**	**	**	-	-	-	-	-	-
Barley	1.82	0.75	46.26	**	**	**	**	**	**	**	**	**	**	**	**	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	35.34	10.39	29.4	17.65	6.9	39.12	17.05	7.59	44.5	**	**	**	**	**	**	1.93	0.79	40.87	0.64	0.31	48.35
Sorghum	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	12.19	4.51	36.97	1.92	0.84	43.92	10.27	4.38	42.64	**	**	**	7.82	2.82	36.06	-	-	-	-	-	-
Horsebeans	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	12.18	4.51	36.99	1.91	0.84	44.08	10.27	4.38	42.64	**	**	**	7.82	2.82	36.06	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	75.37	20.91	27.74	45.65	18.65	40.87	29.08	9.53	32.78	**	**	**	21.44	8.7	40.58	1.93	0.79	40.87	0.64	0.31	48.35

TABLE 2.8 Estimates Of Fertilizer Applied Area by type of Fertilizer and their Standard Error and Coefficient of Variation Belg Season Crops of Private Holdings, 1996/97(1989 E.C.)

GAMBELA

Type of Crop	Total			Natural			Commercial			Urea			Dap			Dap+Urea			Both(Nat+Com)		
	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)
Cereals	**	**	**	-	-	-	**	**	**	**	**	**	**	**	**	-	-	-	-	-	-
Teff	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	**	**	**	-	-	-	**	**	**	**	**	**	**	**	**	-	-	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	**	**	**	-	-	-	**	**	**	**	**	**	**	**	**	-	-	-	-	-	-

TABLE 2.9 Estimates Of Fertilizer Applied Area by type of Fertilizer and their Standard Error and Coefficient of Variation Belg Season Crops of Private Holdings, 1996/97(1989 E.C.) HARARI

Type of Crop	Total			Natural			Commercial			Urea			Dap			Dap+Urea			Both(Nat+Com)		
	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)
Cereals	**	**	**	-	-	-	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-
Teff	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barley	**	**	**	-	-	-	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	-	-	-	-	-	-
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	**	**	**	-	-	-	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	0.05	0.02	36.61	**	**	**	0.03	0.02	49.46	0.03	0.01	49.94	**	**	**	-	-	-	-	-	-

TABLE 2.10 Estimates Of Fertilizer Applied Area by type of Fertilizer and their Standard Error and Coefficient of Variation Belg Season Crops of Private Holdings, 1996/97(1989 E.C.)
DIRE DAWA

Type of Crop	Total			Natural			Commercial			Urea			Dap			Dap+Urea			Both(Nat+Com)		
	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)
Cereals	**	**	**	**	**	**	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-
Teff	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barley	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wheat	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	**	**	**	**	**	**	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	**	**	**	**	**	**	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-

Table 3.1 Estimates of Quantity of Fertilizer Applied by type of Fertilizer and their Standard error and Coefficient of Variation of Private Holdings, 1996/97(1989 E.C.)

ETHIOPIA

Type of Crop	Total			Urea			Dap			Dap + Urea		
	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)
Cereals	496.72	127.87	25.74	64.9	26.81	41.3	360.5	114.13	31.66	71.32	34.01	47.7
Teff	**	**	**	**	**	**	**	**	**	**	**	**
Barley	303.46	112.01	36.91	22.7	11.09	48.85	243.09	100.57	41.37	**	**	**
Wheat	17.27	7.08	41	**	**	**	11.99	5.35	44.64	**	**	**
Maize	146.71	44.06	30.03	**	**	**	81.37	33.86	41.61	31.07	12.91	41.55
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-
Oats	**	**	**	**	**	**	**	**	**	**	**	**
Pulses	50.9	19.48	38.26	**	**	**	43.33	14.73	34	-	-	-
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	**	**	**	-	-	-
Haricotbeans	-	-	-	**	**	**	39.88	14.33	35.93	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	551.08	131.88	23.93	75.93	28.27	37.23	403.84	118.19	29.27	71.31	34.01	47.7

Table 3.2 Estimates of Quantity of Fertilizer Applied by type of Fertilizer and their Standard error and Coefficient of Variation of Private Holdings, 1996/97(1989 E.C.)

Type of Crop	Total			Urea			Dap			Dap + Urea		
	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)
Cereals	**	**	**	-	-	-	**	**	**	-	-	-
Teff	**	**	**	-	-	-	**	**	**	-	-	-
Barley	-	-	-	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-	-	-
Maize	-	-	-	-	-	-	-	-	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	-	-	-	-	-	-	-	-	-	-	-	-
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	-	-	-	-	-	-	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	**	**	**	-	-	-	**	**	**	-	-	-

Table 3.3 Estimates of Quantity of Fertilizer Applied by type of Fertilizer and their Standard error and Coefficient of Variation of Private Holdings, 1996/97(1989 E.C.)

AMHARA

Type of Crop	Total			Urea			Dap			Dap + Urea		
	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)
Cereals	**	**	**	**	**	**	**	**	**	**	**	**
Teff	**	**	**	-	-	-	**	**	**	-	-	-
Barley	**	**	**	**	**	**	**	**	**	**	**	**
Wheat	-	-	-	-	-	-	-	-	-	-	-	-
Maize	**	**	**	-	-	-	**	**	**	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	-	-	-	-	-	-	-	-	-	-	-	-
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	-	-	-	-	-	-	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	**	**	**	**	**	**	**	**	**	**	**	**

Table 3.4 Estimates of Quantity of Fertilizer Applied by type of Fertilizer and their Standard error and Coefficient of Variation of Private Holdings, 1996/97(1989 E.C.)

OROMIYA

Type of Crop	Total			Urea			Dap			Dap + Urea		
	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)
Cereals	226.51	89.23	39.39	**	**	**	193.35	87.15	45.07	**	**	**
Teff	**	**	**	—	—	—	**	**	**	**	**	**
Barley	165.33	77.07	46.62	13.03	6.51	49.96	**	**	**	**	**	**
Wheat	17.27	7.08	41	**	**	**	11.99	5.35	44.64	**	**	**
Maize	**	**	**	**	**	**	**	**	**	**	**	**
Sorghum	—	—	—	—	—	—	—	—	—	—	—	—
Millet	—	—	—	—	—	—	—	—	—	—	—	—
Oats	**	**	**	**	**	**	**	**	**	**	**	**
Pulses	**	**	**	—	—	—	**	**	**	—	—	—
Horsebeans	—	—	—	—	—	—	—	—	—	—	—	—
Field Peas	**	**	**	—	—	—	**	**	**	—	—	—
Haricotbeans	**	**	**	—	—	—	**	**	**	—	—	—
Chick Peas	—	—	—	—	—	—	—	—	—	—	—	—
Lentils	—	—	—	—	—	—	—	—	—	—	—	—
Vetch	—	—	—	—	—	—	—	—	—	—	—	—
Others	—	—	—	—	—	—	—	—	—	—	—	—
Neug	—	—	—	—	—	—	—	—	—	—	—	—
Linseed	—	—	—	—	—	—	—	—	—	—	—	—
Rapeseed	—	—	—	—	—	—	—	—	—	—	—	—
Groundnuts	—	—	—	—	—	—	—	—	—	—	—	—
Sunflower	—	—	—	—	—	—	—	—	—	—	—	—
Sesame	—	—	—	—	—	—	—	—	—	—	—	—
Fenugreek	—	—	—	—	—	—	—	—	—	—	—	—
All Crops	230.04	91.57	39.81	**	**	**	196.89	89.52	45.47	**	**	**

Table 3.5 Estimates of Quantity of Fertilizer Applied by type of Fertilizer and their Standard error and Coefficient of Variation of Private Holdings, 1996/97(1989 E.C.)

SOMALIE

Type of Crop	Total			Urea			Dap			Dap + Urea		
	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)	Estimate (⁰⁰⁰ HA)	S.E (⁰⁰⁰)	C.V (%)
Cereals	**	**	**	-	-	-	**	**	**	-	-	-
Teff	-	-	-	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-	-	-
Maize	**	**	**	-	-	-	**	**	**	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	-	-	-	-	-	-	-	-	-	-	-	-
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	-	-	-	-	-	-	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	**	**	**	-	-	-	**	**	**	-	-	-

Table 3.6 Estimates of Quantity of Fertilizer Applied by type of Fertilizer and their Standard error and Coefficient of Variation of Private Holdings, 1996/97(1989 E.C.)

BENSHANGUL – GUMEZ

Type of Crop	Total			Urea			Dap			Dap + Urea		
	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)
Cereals	--	--	--	--	--	--	--	--	--	--	--	--
Teff	--	--	--	--	--	--	--	--	--	--	--	--
Barley	--	--	--	--	--	--	--	--	--	--	--	--
Wheat	--	--	--	--	--	--	--	--	--	--	--	--
Maize	--	--	--	--	--	--	--	--	--	--	--	--
Sorghum	--	--	--	--	--	--	--	--	--	--	--	--
Millet	--	--	--	--	--	--	--	--	--	--	--	--
Oats	--	--	--	--	--	--	--	--	--	--	--	--
Pulses	--	--	--	--	--	--	--	--	--	--	--	--
Horsebeans	--	--	--	--	--	--	--	--	--	--	--	--
Field Peas	--	--	--	--	--	--	--	--	--	--	--	--
Haricotbeans	--	--	--	--	--	--	--	--	--	--	--	--
Chick Peas	--	--	--	--	--	--	--	--	--	--	--	--
Lentils	--	--	--	--	--	--	--	--	--	--	--	--
Vetch	--	--	--	--	--	--	--	--	--	--	--	--
Others	--	--	--	--	--	--	--	--	--	--	--	--
Neug	--	--	--	--	--	--	--	--	--	--	--	--
Linseed	--	--	--	--	--	--	--	--	--	--	--	--
Rapeseed	--	--	--	--	--	--	--	--	--	--	--	--
Groundnuts	--	--	--	--	--	--	--	--	--	--	--	--
Sunflower	--	--	--	--	--	--	--	--	--	--	--	--
Sesame	--	--	--	--	--	--	--	--	--	--	--	--
Fenugreek	--	--	--	--	--	--	--	--	--	--	--	--
All Crops	--	--	--	--	--	--	--	--	--	--	--	--

Table 3.7 Estimates of Quantity of Fertilizer Applied by type of Fertilizer and their Standard error and Coefficient of Variation of Private Holdings, 1996/97(1989 E.C.)

S.N.N.P.R.

Type of Crop	Total			Urea			Dap			Dap + Urea		
	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)
Cereals	141.01	42.69	30.27	**	**	**	83.09	33.03	39.75	25.26	11.63	46.03
Teff	**	**	**	**	**	**	**	**	**	-	-	-
Barley	12.8	6.32	49.4	**	**	**	12.71	6.29	49.49	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-	-	-
Maize	125.12	42.69	34.12	**	**	**	67.32	32.72	48.6	25.26	11.63	46.03
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	50.55	19.47	38.53	**	**	**	39.7	14.33	36.08	-	-	-
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	50.55	19.47	38.53	**	**	**	39.7	14.33	36.08	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	191.56	49.4	25.79	43.5	22.99	52.84	122.79	40.19	32.73	25.26	11.63	46.03

Table 3.8 Estimates of Quantity of Fertilizer Applied by type of Fertilizer and their Standard error and Coefficient of Variation of Private Holdings, 1996/97(1989 E.C.)

GAMBELA

Type of Crop	Total			Urea			Dap			Dap + Urea		
	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)
Cereals	1.56	0.68	43.38	**	**	**	1.22	0.59	48.45	**	**	**
Teff	—	—	—	—	—	—	—	—	—	—	—	—
Barley	—	—	—	—	—	—	—	—	—	—	—	—
Wheat	—	—	—	—	—	—	—	—	—	—	—	—
Maize	1.56	0.68	43.38	**	**	**	1.22	0.59	48.45	**	**	**
Sorghum	—	—	—	—	—	—	—	—	—	—	—	—
Millet	—	—	—	—	—	—	—	—	—	—	—	—
Oats	—	—	—	—	—	—	—	—	—	—	—	—
Pulses	—	—	—	—	—	—	—	—	—	—	—	—
Horsebeans	—	—	—	—	—	—	—	—	—	—	—	—
Field Peas	—	—	—	—	—	—	—	—	—	—	—	—
Haricotbeans	—	—	—	—	—	—	—	—	—	—	—	—
Chick Peas	—	—	—	—	—	—	—	—	—	—	—	—
Lentils	—	—	—	—	—	—	—	—	—	—	—	—
Vetch	—	—	—	—	—	—	—	—	—	—	—	—
Others	—	—	—	—	—	—	—	—	—	—	—	—
Neug	—	—	—	—	—	—	—	—	—	—	—	—
Linseed	—	—	—	—	—	—	—	—	—	—	—	—
Rapeseed	—	—	—	—	—	—	—	—	—	—	—	—
Groundnuts	—	—	—	—	—	—	—	—	—	—	—	—
Sunflower	—	—	—	—	—	—	—	—	—	—	—	—
Sesame	—	—	—	—	—	—	—	—	—	—	—	—
Fenugreek	—	—	—	—	—	—	—	—	—	—	—	—
All Crops	1.56	0.68	43.38	**	**	**	1.22	0.59	48.45	**	**	**

Table 3.9 Estimates of Quantity of Fertilizer Applied by type of Fertilizer and their Standard error and Coefficient of Variation of Private Holdings, 1996/97(1989 E.C.)

HARARI

Type of Crop	Total			Urea			Dap			Dap + Urea		
	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)	Estimate (^{'000} HA)	S.E (^{'000})	C.V (%)
Cereals	**	**	**	**	**	**	-	-	-	-	-	-
Teff	-	-	-	-	-	-	-	-	-	-	-	-
Barley	**	**	**	**	**	**	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-	-	-
Maize	-	-	-	-	-	-	-	-	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	**	**	**	**	**	**	**	**	**	-	-	-
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	**	**	**	**	**	**	**	**	**	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	**	**	**	**	**	**	**	**	**	-	-	-

Table 4.1 Estimates of area by area size groups and their standard error and coefficient of variation for belg season crops of private holdings, 1996/97 (1989 E.C.)
ETHIOPIA

Type of Crop	Area Size Groups in Hectares																													
	Under 0.1			0.1-0.5			0.51-1.00			1.01-2.00			2.01-5.00			5.01-10.00			10.00 & Over			Total								
	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)						
Cereals	76.61	6.23	8.14	482.25	35.53	7.37	122.71	20.48	16.69	34.67	9.7	27.96	23.24	10.13	43.57	**	**	**	**	**	**	**	**	**	748.29	56.7	7.58			
Teff	4.66	1.69	36.19	57.03	11.7	20.52	6.92	2.75	39.69	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70.89	13.6	19.13	
Barley	24.89	3.3	13.28	153.19	20.72	13.53	17.65	7.44	42.13	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	198.22	25.2	12.72	
Wheat	4.02	0.97	24.23	29.63	10.83	36.56	13.1	5.28	40.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46.75	15.9	34.06	
Maize	37.33	3.47	9.28	217.15	19.45	8.96	68.52	14.15	20.65	25.63	8.43	32.63	14.19	6.42	45.25	**	**	**	**	**	**	**	**	**	**	**	371.81	35.8	9.64	
Sorghum	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**
Millet	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**
Oats	4.35	1.19	27.32	12.26	4.07	33.25	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.63	5.61	30.12	
Pulses	18.75	2.21	11.79	73.81	10.32	13.99	10.94	3.65	33.4	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	106.94	13	12.19	
Horsebeans	1.05	0.48	45.74	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.02	1.94	48.39	
Field Peas	2.53	0.77	30.51	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.85	4.66	42.94	
Haricotbeans	12.99	1.81	13.9	51.17	8.22	16.06	9.06	3.27	36.13	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	76.65	11	14.38	
Chick Peas	**	**	**	7.24	3.09	42.69	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.55	3.76	39.42	
Lentils	1.15	0.46	40.16	3.12	1.49	47.69	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.54	1.63	35.9	
Vetch	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**	
Others	0.96	0.42	43.21	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.1	3	49.17	
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Linseed	**	**	**	0.78	0.36	45.54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.93	0.37	39.16	
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sesame	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**	
Fenugreek	**	**	**	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**	
All Crops	96.33	7.15	7.42	560.84	39.95	7.12	134.02	21.49	16.04	35.93	9.75	27.13	25.42	10.59	41.66	**	**	**	**	**	**	**	**	**	**	**	861.32	61	7.08	

Table 4.2 Estimates of area by area size groups and their standard error and coefficient of variation for belg season crops of private holdings, 1996/97 (1999 E.C.)
TIGRAY

Type of Crop	Area Size Groups in Hectares																							
	Under 0.1			0.1-0.5			0.51-1.00			1.01-2.00			2.01-5.00			5.01-10.00			10.00 & Over			Total		
	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)			
Cereals	0.86	0.27	30.79	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	11.88	5.22	43.98			
Teff	**	**	**	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	**	**	**			
Barley	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Maize	0.69	0.32	46.79	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	1.21	0.57	46.99			
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Pulses	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**			
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Haricotbeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Chick Peas	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**			
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
All Crops	1.22	0.58	47.21	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	12.51	5.02	40.13			

Table 4.3 Estimates of area by area size groups and their standard error and coefficient of variation for belg season crops of private holdings, 1996/97 (1989 E.C.) AMHARA

Type of Crop	Area Size Groups in Hectares																											
	Under 0.1			0.1-0.5			0.51-1.00			1.01-2.00			2.01-5.00			5.01-10.00			10.00 & Over			Total						
	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)				
Cereals	19.48	4.54	23.31	80.62	11.65	14.45	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	112.81	15	13.26	
Teff	3.68	1.64	44.59	23.99	6.14	25.59	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	30.23	7.23	23.92	
Barley	10.16	2.67	26.29	47.99	12.38	25.8	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	68.39	15.9	24.01	
Wheat	1.97	0.74	37.45	2.45	0.93	38.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.42	1.33	30.02	
Maize	1.26	0.46	36.49	4.8	1.75	36.36	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	7.98	2.62	35.31	
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	2.41	1.06	43.91	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.79	1.53	40.25	
Pulses	3.59	1.09	30.26	7.78	2.77	35.85	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.97	3.87	29.81	
Horsebeans	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**	
Field Peas	1.56	0.67	42.89	0.96	0.48	49.79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.52	1.1	43.79	
Haricotbeans	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**	
Chick Peas	**	**	**	5.33	2.92	49.15	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.23	3.33	46.1	
Lenlils	1.08	0.46	42.39	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.56	1.03	40.32	
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	0.47	0.18	39.43	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**	
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**	
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	**	**	**	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**
All Crops	23.53	5.04	21.42	88.73	12.33	13.9	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	126.94	15.7	12.36	

Table 4.4 Estimates of area by area size groups and their standard error and coefficient of variation for belg season crops of private holdings, 1996/97 (1989 E.C.) OROMIA

Type of Crop	Area Size Groups in Hectares																							
	Under 0.1			0.1-0.5			0.51-1.00			1.01-2.00			2.01-5.00			5.01-10.00			10.00 & Over			Total		
	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)			
Cereals	33.87	3.29	9.73	243.73	27.44	11.26	58.89	15.11	25.66	9.17	3.9	42.48	**	**	**	-	-	-	**	**	**	351.96	38.4	10.9
Teff	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	-	-	-	-	-	-	19.56	9.03	46.17
Barley	11.93	1.81	15.17	93.56	15.64	16.71	10.06	4.06	40.34	**	**	**	-	-	-	-	-	-	-	-	116.72	18.7	16.09	
Wheat	1.83	0.63	34.57	26.48	10.79	40.73	13.1	5.28	40.32	-	-	-	-	-	-	-	-	-	-	-	41.42	15.9	38.31	
Maize	17.6	2.41	13.7	96.49	14.18	14.89	29.16	12.03	41.25	**	**	**	**	**	**	-	-	-	**	**	**	155.83	24.9	16.01
Sorghum	**	**	**	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	1.04	0.54	27.87	10.87	4.01	36.9	**	**	**	-	-	-	-	-	-	-	-	-	-	-	14.84	5.4	36.39	
Pulses	9.05	1.54	17.01	35.11	8.22	23.41	**	**	**	-	-	-	-	-	-	-	-	-	-	-	49.48	10.4	21	
Horsebeans	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**
Field Peas	0.84	0.38	44.85	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**	
Haricotbeans	7.18	1.4	19.48	20.72	6.01	29	**	**	**	-	-	-	-	-	-	-	-	-	-	-	33.23	8.62	25.94	
Chick Peas	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**
Lentils	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**
Vetch	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**
Others	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	0.72	0.35	48.97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.72	0.35	48.97
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**
All Crops	43.32	4.1	9.46	283.21	32.35	11.42	64.22	16.22	25.25	9.17	3.9	42.48	**	**	**	-	-	-	**	**	**	406.22	43.9	10.82

Table 4.5 Estimates of area by area size groups and their standard error and coefficient of variation for Belg season crops of private holdings, 1996/97 (1989 E.C.) SOMALIE

Type of Crop	Area Size Groups in Hectares																							
	Under 0.1			0.1-0.5			0.51-1.00			1.01-2.00			2.01-5.00			5.01-10.00			10.00 & Over			Total		
	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)
Cereals	1.58	0.36	22.74	12.29	2.63	21.41	7.05	2.94	41.76	**	**	**	-	-	-	-	-	-	-	-	-	21.12	5.02	23.77
Teff	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barley	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.43	0.21	48.37
Wheat	0.2	0.08	42.9	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**	
Maize	0.91	0.3	32.43	11.37	2.65	23.33	7.05	2.94	41.76	**	**	**	-	-	-	-	-	-	-	-	19.52	5.13	26.27	
Sorghum	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	1.51	0.36	22.06	13.28	2.91	21.91	7.05	2.94	41.76	**	**	**	-	-	-	-	-	-	-	-	22.13	5.45	24.64	

Table 4.6 Estimates of area by area size groups and their standard error and coefficient of variation for belg season crops of private holdings, 1996/97 (1989 E.C.)
BENSHANGUL_GUMEZ

Type of Crop	Area Size Groups in Hectares																										
	Under 0.1			0.1-0.5			0.51-1.00			1.01-2.00			2.01-5.00			5.01-10.00			10.00 & Over			Total					
	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)			
Cereals	**	**	**	1.38	0.62	44.96	**	**	**	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	**	**	**
Teff	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	**	**	**	1.38	0.62	44.96	**	**	**	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	**	**	**
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	0.25	0.11	44.43	8.51	1.6	18.77	2.03	0.95	46.85	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	14.22	3.32	23.34
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	0.25	0.11	44.43	8.51	1.6	18.77	2.03	0.95	46.85	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	14.22	3.32	23.34
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	0.37	0.12	32.64	9.89	1.43	14.51	2.25	0.97	43.17	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	17.88	4.99	27.91

Table 4.7 Estimates of area by area size groups and their standard error and coefficient of variation for belg season crops of private holdings, 1996/97 (1989 E.C.) S.N.N.P.R

Type of Crop	Area Size Groups in Hectares																								
	Under 0.1			0.1-0.5			0.51-1.00			1.01-2.00			2.01-5.00			5.01-10.00			10.00 & Over			Total			
	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	
Cereals	20.65	2.68	12.97	133.3	18.42	13.82	43.84	11.75	26.8	24.44	8.85	36.33	**	**	**	**	**	**	-	-	-	244.93	38.2	15.6	
Teff	0.33	0.15	46.08	9.44	4.04	42.79	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	10.43	4.25	40.74	
Barley	2.63	0.71	27.13	11.33	5.62	49.58	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	14.62	5.77	39.45	
Wheat	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**	
Maize	16.7	2.41	14.4	101.55	12.91	12.71	29.55	6.7	22.69	19.06	7.72	40.51	**	**	**	**	**	**	-	-	-	181.81	24.9	13.71	
Sorghum	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	-	-	-	**	**	**
Millet	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**	
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pulses	5.46	1.1	20.07	20.97	5.32	25.36	1.92	0.86	44.73	-	-	-	-	-	-	-	-	-	-	-	-	28.35	5.94	20.94	
Horsebeans	0.14	0.06	45.7	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.17	0.08	47.45	
Field Peas	**	**	**	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**	
Haricotbeans	5.18	1.09	20.98	20.63	5.33	25.86	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	27.45	5.96	21.71	
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Others	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**	
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Linseed	-	-	-	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**	
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sesame	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**	
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
All Crops	26.2	2.91	11.1	154.34	19.01	12.32	45.75	11.78	25.75	24.44	8.85	36.23	**	**	**	**	**	**	-	-	-	273.43	38.3	13.99	

Table 4.8 Estimates of area by area size groups and their standard error and coefficient of variation for baig season crops of private holdings, 1996/97 (1989 E.C.)
GAMBELA

Type of Crop	Area Size Groups in Hectares																							
	Under 0.1			0.1-0.5			0.51-1.00			1.01-2.00			2.01-5.00			5.01-10.00			10.00 & Over			Total		
	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)
Cereals	0.04	0.01	41.89	0.85	0.24	28.25	0.61	0.24	39.66	**	**	**	**	**	**	-	-	-	-	-	-	1.61	0.46	29.86
Teff	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	0.04	0.01	41.89	0.82	0.23	28.26	0.61	0.24	39.66	**	**	**	**	**	**	-	-	-	-	-	-	1.57	0.45	28.96
Sorghum	**	**	**	0.03	0.02	49.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.03	0.02	49.17
Millet	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	0.04	0.02	41.58	0.86	0.24	28.14	0.61	0.24	39.66	**	**	**	**	**	**	-	-	-	-	-	-	1.61	0.46	35.51

Table 4.9 Estimates of area by area size groups and their standard error and coefficient of variation for belg season crops of private holdings, 1996/97 (1989 E.C.) HARARI

Type of Crop	Area Size Groups in Hectares																							
	Under 0.1			0.1-0.5			0.51-1.00			1.01-2.00			2.01-5.00			5.01-10.00			10.00 & Over			Total		
	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)
Cereals	-	-	-	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**
Teff	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barley	-	-	-	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**
Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	-	-	-	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	**	**	**	0.18	0.06	35.17	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	0.26	0.1	38.81
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	**	**	**	0.18	0.06	35.17	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	0.26	0.1	38.81
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	**	**	**	0.2	0.06	29.73	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	0.26	0.1	34.54

Table 4.10 Estimates of area by area size groups and their standard error and coefficient of variation for Belg season crops of private holdings, 1996/97 (1989 E.C.)
ADDIS ABABA

Type of Crop	Area Size Groups in Hectares																										
	Under 0.1			0.1-0.5			0.51-1.00			1.01-2.00			2.01-5.00			5.01-10.00			10.00 & Over			Total					
	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)			
Cereals	-	-	-	0.02	0	7.91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	0	7.91
Teff	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barley	-	-	-	0.02	0	7.91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	-	-	-	0.02	0	7.91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	0	7.91

Table 4.11 Estimates of area by area size groups and their standard error and coefficient of variation for belg season crops of private holdings, 1996/97 (1989 E.C.)
DIREDAWA

Type of Crop	Area Size Groups in Hectares																							
	Under 0.1			0.1-0.5			0.51-1.00			1.01-2.00			2.01-5.00			5.01-10.00			10.00 & Over			Total		
	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)	Estimate ('000 HA)	S.E ('000)	C.V (%)			
Cereals	0.02	0.01	39.17	0.25	0.09	32.59	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	0.3	0.1	34.44
Teff	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barley	**	**	**	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**	**	**
Wheat	-	-	-	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	0.02	0.01	45.42	0.2	0.07	32.48	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	0.24	0.08	34.38
Sorghum	**	**	**	0.03	0.02	47.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.03	0.02	48.05
Millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Horsebeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricotbeans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chick Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Crops	0.02	0.01	39.17	0.26	0.09	32.59	**	**	**	-	-	-	-	-	-	-	-	-	-	-	-	0.3	0.1	34.44