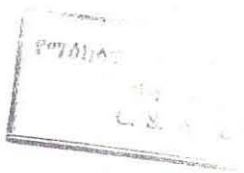


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THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
CENTRAL STATISTICAL AUTHORITY



AGRICULTURAL SAMPLE SURVEY
1994/95 (1987 E.C.)

REPORT ON

**AREA AND PRODUCTION OF
BELG SEASON CROPS**

FOR

1993/94 AND 1994/95 (1986 AND 1987 E.C.)
(Private Peasant Holdings)

VOLUME VI

Addis Ababa
November, 1996

132

STATISTICAL BULLETIN

132

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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 descriptive analysis and quantitative information about the use of modern agricultural inputs for belg season crops of 1993/94(1986 E.C.) and 1994/95 (1987 E.C.) of the private peasant holdings for the country & regions as it was obtained from the results of the agricultural sample survey conducted in 1994/95(1987 E.C.) by the Central Statistical Authority (CSA). Furthermore the report is subdivided into three sections;

section-1 :- deals with estimates of total area under different farm management practices, total area under fertilizer by type of fertilizer and quantity of commercial fertilizer in 1993/94(1986 E.C.) & 1994/95(1987 E.C.) for belg season crops.

Section-2 :- deals with total area under belg season crops and the distribution of area under different farm management practices by area size groups.

Section-3 :- deals with estimates of total number of belg crop producing holders reporting use of improved farm management practices.

2. OBJECTIVE OF THE SURVEY

The objective of the Agricultural Sample Survey which has been conducted in 1994/95 (1987 E.C.) is to collect basic quantitative information on the nation's agriculture needed in the establishment of national priorities, in development planning as well as in other socio-economic policy formulation. Its aim was to obtain reliable estimates on land area, production, utilization of agricultural inputs, livestock and poultry and other agricultural variables for zones regions and the country as a whole.

3. COVERAGE AND CONTENT

The 1994/95 (1987 E.C.) Agricultural Sample Survey was designed to cover sedentary rural agricultural population in all regions of the country except Somali Region. However, Addis Ababa, Benishangul, Afar Regions, Wag Hamra, East Gojam, Guraghe Zones, Amaro and Burji special weredas did not report belg crops for both 1994 and 1995 belg seasons and Harari region for 1994 and Gardula special wereda for 1995. A total of 52 zones and 441 weredas were covered in the survey. The areal coverage of the survey is given in Table A.

Moreover, for the survey 960 enumeration areas were selected to be covered in all regions. However, during the data collection stage the survey succeeded to cover only 884 enumeration areas (EAs). For details see appendix II of volume I. Furthermore, from each of the selected EAs a sample of 25 agricultural households were taken.

From these households, 15 of the households were taken for the information on area under crops, production of major crops (temporary or annual), land utilization, agricultural practices, crop damage, quantity and price of agricultural inputs used. In addition, it was attempted for the first time to collect information on the yield of permanent crops per tree, frequency of harvests in the crop year and number of yielding trees during the survey year with the exception of livestock, poultry, beehives and

belg season information which was based on all 25 households (For details refer to survey questionnaire in Appendix I of Volume I).

TABLE A. AREAL COVERAGE OF THE 1994/95 AGRICULTURAL SAMPLE SURVEY

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	71	32
AFAR ²	5	2	27	3
AMHARA	10	10	127	111
OROMIA	12	12	222	196
SOMALIE ³	9	-	45	-
BENSHANGUL-GUMEZ	3	3	16	5
S.N.N.P.R	16	16	94	83
GAMBELA	1	1	7	4
HARARI	1	1	1	1
ADDIS ABABA ⁴	6	2	5	5
DIRE DAWA	1	1	1	1
TOTAL	69	52	616	441

Note

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

- 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 - When the sampled EAs were drawn they fall in three zones. But, during the field work, in one out of these three zones, the sampled EAs were found to be nomadic areas.
- 3 - During the field work some of the sampled EAs in the region were found to be nomadic areas.
For those EAs where the population is sedentary, Somalie speaking enumerators were not available in the area and hiring translators was impossible because of the high cost associated with it.
- 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.

4. SAMPLE DESIGN

The reporting levels for the 1994/95 survey were zones in Amhara, Oromiya and Southern Nations Nationalities and Peoples Regions and region for the remaining regions. The five special weredas of Southern Nations Nationalities and Peoples Region were considered as an independent zone each.

In this survey, 960 rural enumeration areas (EAs) were sampled in 11 regions. These sample EAs were allocated to the regions taking into account their relative sizes with respect to the number of households.

A two-stage stratified sample design was used for sample selection. In Amhara, Oromiya and Southern Nations Nationalities and Peoples Regions strata were zones and regions for the remaining regions. The primary sampling units in all strata were EAs and the ultimate sampling units were agricultural households.

In Oromiya, Amhara and Southern Nations Nationalities and Peoples Regions the share of each region were reallocated to the zones in the region proportional to the sizes, size being the total number of households as obtained from the listing operation in the 1994 Population and Housing Census map work.

In each stratum (zone/region) the primary sampling units (EAs) were selected with probability proportional to size without replacement, again size being the total number of household of the EA as obtained from the census map work.

From each selected EA a sample of 25 agricultural households were selected using systematic sampling technique from the identified agricultural households in the listing form (Form 1) of the 1994 Population and Housing Census. All holders in the selected agricultural households were covered by the survey.

5. FIELD ORGANIZATION

CSA branch statistical office heads, field supervisors and enumerators were fully involved in the survey. Hence, 14 statistical branch office heads, about 200 field supervisors, each supervising 5 enumerators in most cases and about 1000 enumerators stationed in each of the selected EAs, experts from head office, other support staff and about 40 drivers were involved in the operation.

For all enumerators the necessary survey equipment, such as compasses, protractors, rulers, measuring tapes, balance scales, poles, ropes, sample bags etc. were made available and to facilitate the field work about 40 vehicles were put on operation.

6. TRAINING OF FIELD STAFF

At the outset all relevant materials, like equipment, questionnaires and instruction manuals were prepared. Then the training programme for the field staff was carried out in two stages. In the first stage, about 90 trainees, i.e. experts from the head office, branch statistical office heads and some of the field supervisors were given training for two weeks at the head office. Those trained in the first stage conducted similar training for about 200 field supervisors and about 1000 enumerators in all the 14 branch offices all over the country. During the training, the field staff were given detailed class room instruction on the purpose of the survey, concept 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 pesticide, use of improved seed and use of irrigation), area and production of major belg season crops were 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, short maturing crops are planted during Belg period and are harvested in June or July.

However, due to the heterogeneity of belg practices in different parts of the country and the overlapping nature of sowing 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.

However, in the 1994/95 agricultural sample survey two sets of belg season questionnaires were administered in two months. The first one, September 1994, referring to 1993/94 belg season while the second one, April 1995, referring to 1994/95 belg season. The information collected on September 1994 was the estimate of post harvest belg season crop production while that of April 1995 was expected production of belg season crops.

8. BASIC CONCEPTS AND DEFINITIONS

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

Enumeration Area (EA): An Enumeration Area in rural parts of the Country is a locality that is less than or equal to a farmer's association area and usually it consists of 150-200 households.

Households: A household may be either;

a) a one person household, that is a person who makes provision for his own food or other essentials for living without combining with any other person to form part of a multi person household or

b) a multi person household, that is, a group of two or more persons who live together and make common provision for food or other essentials for living. The persons in the group may pool their incomes and have a common budget to greater or lesser extent. They may be related or unrelated persons, or a combination of both.

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

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

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

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 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).

Pesticide: 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

In all tables "-" labeled for data not available and "0.00" values have to be considered as insignificant numbers.

9. SUMMARY OF THE SURVEY RESULTS

SECTION-1. ESTIMATES OF AREA UNDER FARM MANAGEMENT PRACTICES FOR BELG SEASON CROPS

In Ethiopia, farmers are using improved seeds, fertilizers, pesticides, and other inputs from year to year. Therefore, this section presents the estimated area under different farm management practices for belg seasons of 1993/94(1986 E.C.) and 1994/95(1987 E.C.) which indicate the extent of the use of farm management practices in the belg season.

1.1 ESTIMATES OF TOTAL AREA UNDER DIFFERENT FARM MANAGEMENT PRACTICES

According to the survey results, it was estimated that about 637.76 and 750 thousand hectares of land were covered by belg season major crops in 1993/94(1986 E.C.) and 1994/95(1987 E.C.) respectively. Of these totals 137.50 and 136.76 thousand hectares were under the use of improved farm management practices in the above mentioned years' belg seasons. Of the above mentioned total area under improved farm inputs, in 1993/94 (1986 E.C.), 89.43 thousand hectares (65.04%) was fertilized area (both natural and commercial), 23.28 thousand hectares (16.93%) was under irrigation, 17.54 thousand hectares (12.76%) was treated with pesticides and 7.25 thousand hectares (5.27%) was under improved seeds.

On the other hand, of the total land area under improved farm inputs in the 1994/95(1987 E.C.) belg season, the highest area 102.28 thousand hectares (74.79%) was reported to be under fertilizer, followed by area under irrigation, which accounted for 22.33 thousand hectares (16.33%) of the total.

Comparing the total area under improved farm inputs of the two years for belg seasons, the total area has decreased by 0.54% in the latter production year. Decreases of 38.90%, 4.08% and 55.99%, were also observed for areas under improved seeds, irrigated and pesticides applications, respectively. While, an increase of 14.37% was observed in 1994/95 (1987 E.C.) as regards to the land area under fertilizer application (for details see Summary Table B.).

SUMMARY TABLE B. TOTAL AREA UNDER DIFFERENT FARM MANAGEMENT PRACTICES AND THEIR PERCENT CHANGE FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, 1993/94(1986 E.C.) AND 1994/95 (1987 E.C.)

TYPE OF FARM MANAGEMENT	AREA ('000 HECTARES)				
	1993/94 (1986 E.C)	%	1994/95 (1987 E.C)	%	% CHANGE
IRRIGATION	23.28	16.93	22.33	16.33	-4.08
IMPROVED SEEDS	7.25	5.27	4.43	3.24	-38.90
FERTILIZER	89.43	65.04	102.28	74.79	14.37
PESTICIDES	17.54	12.76	7.72	5.64	-55.99
TOTAL	137.50	100.00	136.76	100.00	-0.54

1.2 ESTIMATED AREA UNDER FARM MANAGEMENT PRACTICES BY CROP TYPE

Comparison of total land area under different farm management practices for belg season crops of 1993/94 (1986 E.C.) and 1994/95 (1987 E.C.) is presented in Summary Table C. As it is indicated in the summary table, in 1993/94 (1986 E.C.) the highest proportion of crop area under different farm management practices was reported to be covered by belg cereals, which accounted for 125.09 thousand hectares (90.97%), while 12.13 thousand hectares (8.82%) and 0.28 thousand hectares (0.20%) were accounted for belg pulses and other crops (mainly oil seeds), respectively.

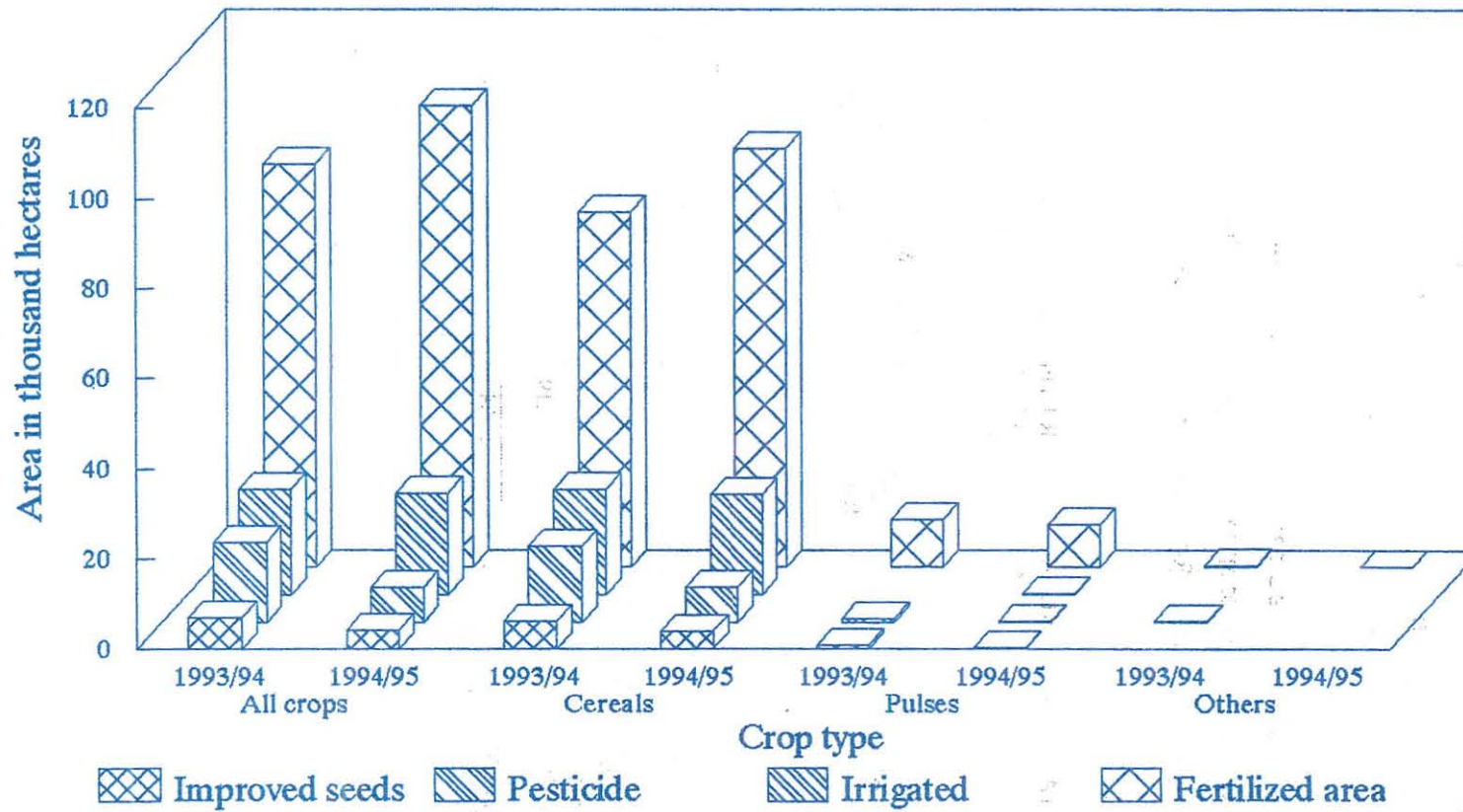
Of the total area under different farm management practices of belg season crops, the highest area was reported under cereals which accounted for 126.69 thousand hectares (92.64%) followed by pulses 10.02 thousand hectares (7.33%) in 1994/95 (1987 E.C.)

The land area for belg cereals showed an increase of 1.28% for 1994/95 (1987 E.C.) as compared to that of 1993/94 (1986 E.C.); on the other hand a decrease of 17.39% of area under belg pulse was reported for 1994/95 (1987 E.C.) comparing with that of 1993/94 (1986 E.C.) (for details see summary Table C and figure 1).

SUMMARY TABLE C. TOTAL AREA UNDER DIFFERENT FARM MANAGEMENT PRACTICES AND THEIR PERCENT CHANGE FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, 1993/94(1986 E.C.) AND 1994/95 (1987 E.C.)

CROP TYPE	AREA ('000 HECTARES)				
	AREA UNDER FARM MANAGEMENT PRACTICES				
	1993/94 (1986 E.C)	%	1994/95 (1987 E.C)	%	% CHANGE
CEREALS	125.09	90.97	126.69	92.64	1.28
PULSES	12.13	8.82	10.02	7.33	-17.39
OTHERS	0.28	0.20	0.05	0.04	-82.14
TOTAL	137.50	100.00	136.76	100.00	-0.54

Figure 1. Estimates of total area under improved farm management practices for belg season crops of private holdings in Ethiopia, 1993/94(1986 E.C.) & 1994/95 (1987 E.C.)



1.3 REGIONAL DISTRIBUTION OF FARM MANAGEMENT PRACTICES

According to the survey results, Amhara, Oromiya, S.N.N.P R. and Dire Dawa regions have utilized improved farm inputs for both years. As indicated in Summary Table D, the largest area under belg season crops were reported by Oromiya in 1993/94 and S.N.N.P region in 1994/95.

The smallest area under improved farm management practices for belg season were reported for Dire Dawa Region in 1993/94 (1986 E.C.) and Harari Region in 1994/95 (1987 E.C.).

SUMMARY TABLE D. TOTAL AREA UNDER DIFFERENT FARM MANAGEMENT PRACTICES AND THEIR PERCENT DISTRIBUTION BY REGION FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, 1993/94 (1986 E.C.) AND 1994/95 (1987 E.C.)

REGION	AREA (000 HECTARES)			
	AREA UNDER FARM MANAGEMENT PRACTICES			
	1993/94 (1986 E.C.)	%	1994/95 (1987 E.C.)	%
TIGRAY	—	—	—	—
AFAR	—	—	—	—
AMHARA	13.30	9.67	13.52	9.89
OROMIA	73.35	53.35	55.70	40.73
BENSHANGUL-GUMEZ	—	—	—	—
S.N.N.P.R	50.65	36.84	67.25	49.17
GAMBELA	—	—	—	—
HARARI	—	—	0.02	0.01
ADDIS ABABA	—	—	—	—
DIRE DAWA	0.19	0.14	0.27	0.20
TOTAL	137.49	100.00	136.76	100.00

1993/94 (1986 E.C.) BELG SEASON RESULTS

TABLE 1. ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

ETHIOPIA		AREA ('000 HECTARES)			
CROP	TOTAL BELG CROP AREA	AREA UNDER FARM MANAGEMENT PRACTICES			
		IRRIGATED	IMPROVED SEEDS	FERTILIZER APPLIED	PESTICIDE APPLIED
CEREALS	606.90	23.28	6.37	78.79	16.65
TEFF	40.79	1.76	1.43	9.60	3.29
BARLEY	192.46	0.10	0.95	30.15	3.63
WHEAT	26.77	0.03	1.42	2.38	2.99
MAIZE	305.22	19.76	2.57	33.85	4.97
SORGHUM	31.27	1.32	-	0.64	1.18
MILLET	1.29	-	-	-	-
OATS	9.10	0.31	-	2.17	0.59
PULSES	28.95	-	0.88	10.45	0.81
HORSE BEANS	2.62	-	-	0.08	-
CHICK PEAS	1.74	-	-	-	0.06
HARICOT BEANS	19.27	-	-	9.72	0.10
FIELD PEAS	4.39	-	0.88	0.51	0.57
LENTILS	0.73	-	-	0.14	0.07
VEITCH	0.20	-	-	-	-
OTHERS	1.91	-	-	0.19	0.09
NEUG	-	-	-	-	-
LINSEED	1.71	-	-	0.17	-
FENUGREEK	0.20	-	-	0.02	0.09
RAPESEED	-	-	-	-	-
TOTAL	637.76	23.28	7.25	89.42	17.54

TABLE 1.1 ESTIMATES OF AREA UNDER DIFFERENT FARM MANAGEMENT PRACTICES BY REGION FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

REGION	TOTAL BELG CROP AREA	%	AREA UNDER FARM MANAGEMENT PRACTICES							
			IRRIGATED		IMPROVED SEEDS		FERTILIZER APPLIED		PESTICIDE APPLIED	
				%		%		%		%
TIGRAY	6.68	1.05	-	-	-	-	-	-	-	-
AFAR	-	-	-	-	-	-	-	-	-	-
AMHARA	105.70	16.57	3.18	13.66	0.47	6.49	8.86	9.91	0.79	4.51
OROMIA	325.44	51.03	13.69	58.83	4.64	63.98	39.90	44.61	15.12	86.25
B.GUMEZ*	-	-	-	-	-	-	-	-	-	-
S.N.N.P.R	198.64	31.15	6.28	26.99	2.14	29.53	40.61	45.41	1.62	9.24
GAMBELA	1.06	0.17	-	-	-	-	-	-	-	-
HARARI	-	-	-	-	-	-	-	-	-	-
ADDIS ABABA	-	-	-	-	-	-	-	-	-	-
DIRE DAWA	0.24	0.04	0.12	0.52	-	-	0.07	0.08	-	-
TOTAL	637.76	100.00	23.27	100.00	7.25	100.00	89.44	100.00	17.53	100.00

* BENISHANGULGUMEZ

TABLE 1.2 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES
BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

AMHARA

CROP	TOTAL BELG CROP AREA	AREA ('000 HECTARES)			
		IRRIGATED	IMPROVED SEEDS	FERTILIZER APPLIED	PESTICIDE APPLIED
CEREALS	102.19	3.18	0.46	8.84	0.79
TEFF	9.14	1.63	-	0.56	0.27
BARLEY	78.13	0.09	0.32	8.07	0.52
WHEAT	4.59	0.03	0.13	0.13	-
MAIZE	6.04	1.12	0.02	0.07	-
SORGHUM	1.49	-	-	-	-
MILLET	0.40	-	-	-	-
OATS	2.40	0.31	-	0.01	-
PULSES	3.46	-	-	-	-
HORSE BEANS	-	-	-	-	-
CHICK PEAS	1.38	-	-	-	-
HARICOT BEANS	-	-	-	-	-
FIELD PEAS	1.84	-	-	-	-
LENTILS	0.10	-	-	-	-
VETCH	0.14	-	-	-	-
OTHERS	0.05	-	-	0.02	-
NEUG	-	-	-	-	-
LINSEED	0.04	-	-	-	-
FENUGREEK	0.01	-	-	0.02	-
RAPESEED	-	-	-	-	-
TOTAL	105.70	3.18	0.47	8.86	0.79

TABLE 1.2.1 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FC
BELG SEASON CROPS OF PRIVATE HOLDINGS IN AMHARA
REGION BY ZONE, 1993/94(1986 E.C.)

ZONE	TOTAL BELG CROP AREA	AREA ('000 HECTARES)			
		IRRIGATED	IMPROVED SEEDS	FERTILIZER APPLIED	PESTICIDE APPLIED
AGEWAWI	0.51	-	-	-	-
EAST GOJAM	-	-	-	-	-
WEST GOJAM	3.19	0.03	-	-	-
NORTH GONDER	4.60	-	-	1.99	0.36
SOUTH GONDER	3.94	0.48	0.13	0.07	-
NORTH SHOA	18.00	0.48	0.00	2.31	0.25
OROMIA	8.49	0.02	-	0.03	-
WAG-HAMRA	-	-	-	-	-
NORTH WOLLO	21.07	1.89	0.21	0.51	0.10
SOUTH WOLLO	45.90	0.28	0.13	3.95	0.09
TOTAL	105.70	3.18	0.47	8.86	0.80

TABLE 1.3 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1993/94 (1986 E.C.)

OROMIA

CROP	TOTAL BELG CROP AREA	AREA ('000 HECTARES)			
		IRRIGATED	IMPROVED SEEDS	FERTILIZER APPLIED	PESTICIDE APPLIED
CEREALS	312.12	13.69	3.81	38.74	14.24
TEFF	21.72	0.06	1.06	5.66	2.82
BARLEY	99.37	0.01	0.56	17.36	2.47
WHEAT	22.16	-	1.29	2.24	2.98
MAIZE	145.67	13.62	0.90	10.76	4.51
SORGHUM	16.51	-	-	0.56	0.87
MILLET	-	-	-	-	-
OATS	6.69	-	-	2.16	0.59
PULSES	11.46	-	0.83	0.99	0.80
HORSE BEANS	0.63	-	-	0.08	-
CHICK PEAS	0.36	-	-	-	0.06
HARICOT BEANS	7.54	-	-	0.26	0.10
FIELD PEAS	2.30	-	0.83	0.51	0.57
LENTILS	0.63	-	-	0.14	0.07
VETCH	-	-	-	-	-
OTHERS	1.86	-	-	0.17	0.09
NEUG	-	-	-	-	-
LINSEED	1.67	-	-	0.17	-
FENUGREEK	0.19	-	-	-	0.09
RAPSEED	-	-	-	-	-
TOTAL	325.44	13.69	4.64	39.90	15.12

TABLE 1.3.1 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN OROMIA REGION BY ZONE, 1993/94(1986 E.C.)

ZONE	TOTAL BELG CROP AREA	AREA ('000 HECTARES)			
		IRRIGATED	IMPROVED SEEDS	FERTILIZER APPLIED	PESTICIDE APPLIED
ARSI	30.93	0.13	-	12.21	0.69
BALE	67.14	0.26	0.64	9.71	10.52
BORENA	47.73	0.33	3.83	-	-
EAST HARARGHE	20.26	1.10	-	2.55	0.25
WEST HARARGHE	19.15	-	-	1.53	0.03
ILLUBABOR	11.96	-	-	0.75	-
JIMA	53.83	-	0.04	10.92	1.01
EAST SHOA	1.57	-	-	0.74	0.31
NORTH SHOA	16.31	0.94	-	-	-
WEST SHOA	21.78	3.07	0.11	1.04	0.09
EAST WELLEGA	13.18	7.02	-	-	0.09
WEST WELLEGA	21.60	0.84	0.02	0.45	2.13
TOTAL	325.44	13.69	4.64	39.90	15.12

TABLE 1.4 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1993/94 (1986 E.C.)

S.N.N.P.R

CROP	TOTAL BELG CROP AREA	AREA ('000 HECTARES)			
		IRRIGATED	IMPROVED SEEDS	FERTILIZER APPLIED	PESTICIDE APPLIED
CEREALS	184.61	6.28	2.09	31.15	1.62
TEFF	9.43	0.07	0.37	3.39	0.20
BARLEY	11.61	-	0.07	4.71	0.64
WHEAT	0.02	-	-	0.01	0.01
MAIZE	150.41	4.89	1.65	22.96	0.46
SORGHUM	12.62	1.32	-	0.08	0.31
MILLET	0.51	-	-	-	-
OATS	0.01	-	-	-	-
PULSES	14.03	-	0.05	9.46	-
HORSE BEANS	1.99	-	-	-	-
CHICK PEAS	-	-	-	-	-
HARICOT BEANS	11.73	-	-	9.46	-
FIELD PEAS	0.25	-	0.05	-	-
LENTILS	-	-	-	-	-
VETCH	0.06	-	-	-	-
TOTAL	198.64	6.28	2.14	40.61	1.62

TABLE 1.4.1 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN S.N.N.P.R REGION BY ZONE, 1993/94(1986 E.C.)

ZONE	TOTAL BELG CROP AREA	AREA ('000 HECTARES)			
		IRRIGATED	IMPROVED SEEDS	FERTILIZER APPLIED	PESTICIDE APPLIED
BENCH	8.16	-	-	-	-
GEDIO	0.73	-	-	0.15	-
GURAGHE	-	-	-	-	-
HADIYA	3.25	-	-	2.21	0.64
KEMBATA	2.80	-	-	2.72	-
KEFICHO	18.95	-	0.07	0.05	-
MAJI	1.68	-	-	-	-
NORTH OMO	133.59	3.30	1.46	29.37	0.14
SOUTH OMO	8.85	-	0.01	0.03	0.33
SHEKICHO	3.47	-	-	0.04	0.22
SIDAMA	8.31	-	0.23	5.74	-
AMARO WEREDA	-	-	-	-	-
BURJI WEREDA	-	-	-	-	-
GARDULA WEREDA	3.47	1.95	-	-	-
KONSO WEREDA	4.98	1.03	0.37	0.30	0.29
YEM WEREDA	0.40	-	-	-	-
TOTAL	198.64	6.28	2.14	40.61	1.62

TABLE 1.5 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES
FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1993/94 (1986 E.C.)

DIRE DAWA

CROP	TOTAL BELG CROP AREA	AREA ('000 HECTARES)			
		IRRIGATED	IMPROVED SEEDS	FERTILIZER APPLIED	PESTICIDE APPLIED
CEREALS	0.24	0.12	—	0.07	—
TEFF	—	—	—	—	—
BARLEY	—	—	—	—	—
WHEAT	—	—	—	—	—
MAIZE	0.24	0.12	—	0.07	—
SORGHUM	—	—	—	—	—
MILLET	—	—	—	—	—
OATS	—	—	—	—	—
TOTAL	0.24	0.12	—	0.07	—

1994/95 (1987 E.C.) BELG SEASON RESULTS

TABLE 2. ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95 (1987 E.C.)

ETHIOPIA

CROP	TOTAL BELG CROP AREA	AREA ('000 HECTARES)			
		IRRIGATED	IMPROVED SEEDS	FERTILIZER APPLIED	PESTICIDE APPLIED
CEREALS	702.56	22.17	3.94	92.93	7.65
TEFF	55.23	3.05	0.27	1.92	0.19
BARLEY	256.87	4.92	1.87	26.68	6.45
WHEAT	31.75	0.16	0.54	4.03	0.47
MAIZE	313.60	12.81	1.14	58.27	0.40
SORGHUM	32.03	0.34	0.12	0.32	-
MILLET	1.86	-	-	0.48	-
OATS	11.22	0.89	-	1.23	0.14
PULSES	41.09	0.16	0.49	9.30	0.07
HORSE BEANS	0.65	-	-	-	-
CHICK PEAS	3.84	-	-	0.04	-
HARICOT BEANS	19.61	-	-	0.02	-
FIELD PEAS	7.59	0.16	0.49	7.03	0.01
LENTILS	3.86	-	-	2.21	0.06
VETCH	5.54	-	-	-	-
OTHERS	6.35	-	-	0.05	-
NEUG	-	-	-	-	-
LINSEED	4.42	-	-	-	-
FENUGREEK	1.93	-	-	0.05	-
RAPESEED	-	-	-	-	-
TOTAL	750.00	22.33	4.43	102.28	7.72

TABLE 2.1 ESTIMATES OF AREA UNDER DIFFERENT FARM MANAGEMENT PRACTICES BY REGION FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C.)

AREA ('000 HECTARES)

REGION	TOTAL BELG CROP AREA	%	AREA UNDER FARM MANAGEMENT PRACTICES							
			IRRIGATED	%	IMPROVED SEEDS	%	FERTILIZER APPLIED	%	PESTICIDE APPLIED	%
TIGRAY	28.51	3.80	-	-	-	-	-	-	-	-
AFAR	-	-	-	-	-	-	-	-	-	-
AMHARA	140.76	18.77	8.47	37.93	0.13	2.93	4.92	4.81	-	-
OROMIA	307.41	40.99	11.00	49.26	3.30	74.49	33.68	32.93	7.72	100.00
B.GUMEZ*	-	-	-	-	-	-	-	-	-	-
S.N.N.P.R	271.41	36.19	2.70	12.09	1.00	22.57	63.55	62.14	-	-
GAMBELA	1.57	0.21	-	-	-	-	-	-	-	-
HARARI	0.15	0.02	-	-	-	-	0.02	0.02	-	-
ADDIS ABABA	-	-	-	-	-	-	-	-	-	-
DIRE DAWA	0.19	0.03	0.16	0.72	-	-	0.11	0.11	-	-
TOTAL	750.00	100.00	22.33	100.00	4.43	100.00	102.28	100.00	7.72	100.00

* BENISHANGULGUMEZ

TABLE 2.2 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1994/5 (1987 E.C.)

AMHARA

CROP	TOTAL BELG CROP AREA	AREA ('000 HECTARES)			
		IRRIGATED	IMPROVED SEEDS	FERTILIZER APPLIED	PESTICIDE APPLIED
CEREALS	128.70	8.31	0.13	4.76	-
TEFF	22.51	2.91	0.11	0.66	-
BARLEY	90.08	3.26	-	3.73	-
WHEAT	4.20	0.16	-	0.22	-
MAIZE	6.07	1.09	0.02	0.14	-
SORGHUM	3.58	-	-	-	-
MILLET	0.05	-	-	-	-
OATS	2.21	0.89	-	0.01	-
PULSES	8.06	0.16	-	0.16	-
HORSE BEANS	0.58	-	-	-	-
CHICK PEAS	3.84	-	-	0.04	-
HARICOT BEANS	0.06	-	-	-	-
FIELD PEAS	2.13	0.16	-	0.12	-
LENTILS	1.15	-	-	-	-
VETCH	0.30	-	-	-	-
OTHERS	4.00	-	-	-	-
NEUG	-	-	-	-	-
LINSEED	2.54	-	-	-	-
FENUGREEK	1.46	-	-	-	-
RAPESEED	-	-	-	-	-
TOTAL	140.76	8.47	0.13	4.92	-

TABLE 2.2.1 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN AMHARA REGION BY ZONE, 1994/95 (1987 E.C.)

ZONE	TOTAL BELG CROP AREA	AREA ('000 HECTARES)			
		IRRIGATED	IMPROVED SEEDS	FERTILIZER APPLIED	PESTICIDE APPLIED
AGEWAWI	0.13	0.11	-	0.10	-
EAST GOJAM	-	-	-	-	-
WEST GOJAM	2.70	-	-	-	-
NORTH GONDER	7.60	-	-	-	-
SOUTH GONDER	6.55	-	0.02	-	-
NORTH SHOA	22.25	2.72	-	2.71	-
OROMIA	9.30	-	-	0.01	-
WAG-HAMRA	-	-	-	-	-
NORTH WOLLO	35.23	4.47	0.11	0.12	-
SOUTH WOLLO	57.00	1.17	-	1.97	-
TOTAL	140.76	8.47	0.13	4.92	-

TABLE 2.3 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95 (1987 E.C.)

OROMIA

CROP	TOTAL BELG CROP AREA	AREA ('000 HECTARES)			
		IRRIGATED	IMPROVED SEEDS	FERTILIZER APPLIED	PESTICIDE APPLIED
CEREALS	282.62	11.00	2.81	31.15	7.65
TEFF	11.55	0.05	0.16	0.62	0.19
BARLEY	83.79	1.05	1.04	19.73	6.45
WHEAT	26.45	-	0.54	3.81	0.47
MAIZE	137.21	9.90	0.95	5.77	0.40
SORGHUM	15.13	-	0.12	-	-
MILLET	-	-	-	-	-
OATS	8.49	-	-	1.22	0.14
PULSES	22.44	-	0.49	2.48	0.07
HORSE BEANS	0.07	-	-	-	-
CHICK PEAS	-	-	-	-	-
HARICOT BEANS	8.96	-	-	-	-
FIELD PEAS	5.46	-	0.49	0.32	0.01
LENTILS	2.71	-	-	2.16	0.06
VETCH	5.24	-	-	-	-
OTHERS	2.35	-	-	0.05	-
NEUG	-	-	-	-	-
LINSEED	1.88	-	-	-	-
FENUGREEK	0.47	-	-	0.05	-
RAPSEED	-	-	-	-	-
TOTAL	307.41	11.00	3.30	33.68	7.72

TABLE 2.3.1 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN OROMIA REGION BY ZONE, 1994/95(1987 E.C.)

ZONE	TOTAL BELG CROP AREA	AREA ('000 HECTARES)			
		IRRIGATED	IMPROVED SEEDS	FERTILIZER APPLIED	PESTICIDE APPLIED
ARSI	56.50	-	0.11	22.94	7.71
BALE	69.99	-	0.39	6.22	-
BORENA	57.32	-	2.62	-	0.01
EAST HARARGHE	37.33	-	-	2.60	-
WEST HARARGHE	18.61	0.23	0.10	-	-
ILLUBABOR	5.02	0.01	-	-	-
JIMA	15.90	-	-	0.65	-
EAST SHOA	2.88	0.44	-	0.81	-
NORTH SHOA	2.53	1.47	0.08	-	-
WEST SHOA	4.54	3.00	-	0.15	-
EAST WELLEGA	6.29	2.62	-	0.02	-
WEST WELLEGA	30.50	3.23	-	0.29	-
TOTAL	307.41	11.00	3.30	33.68	7.72

TABLE 2.4 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95 (1987 E.C.)

S.N.N.P.R

CROP	TOTAL BELG CROP AREA	AREA ('000 HECTARES)			
		IRRIGATED	IMPROVED SEEDS	FERTILIZER APPLIED	PESTICIDE APPLIED
CEREALS	260.00	2.70	1.00	56.91	--
TEFF	2.81	0.09	--	0.64	--
BARLEY	77.47	0.61	0.83	3.22	--
WHEAT	165.24	--	--	--	--
MAIZE	12.10	1.66	0.17	52.25	--
SORGHUM	1.73	0.34	--	0.32	--
MILLET	0.52	--	--	0.48	--
OATS	--	--	--	--	--
PULSES	10.44	--	--	6.64	--
HORSE BEANS	--	--	--	--	--
CHICK PEAS	--	--	--	--	--
HARICOT BEANS	10.44	--	--	--	--
FIELD PEAS	--	--	--	6.59	--
LENTILS	--	--	--	0.05	--
VETCH	--	--	--	--	--
TOTAL	271.41	2.70	1.00	63.55	--

TABLE 2.4.1 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN S.N.N.P.R BY ZONE, 1994/95 (1987 E.C.)

ZONE	TOTAL BELG CROP AREA	AREA ('000 HECTARES)			
		IRRIGATED	IMPROVED SEEDS	FERTILIZER APPLIED	PESTICIDE APPLIED
BENCH	7.16	--	--	--	--
GEDIO	0.41	--	--	--	--
GURAGHE	--	--	--	--	--
HADIYA	4.27	--	--	2.68	--
KEMBATA	1.39	--	--	1.20	--
KEFICHO	13.93	--	--	--	--
MAJI	2.36	--	--	--	--
NORTH OMO	204.90	1.98	0.83	55.59	--
SOUTH OMO	14.78	--	--	--	--
SHEKICHO	6.52	--	--	--	--
SIDAMA	8.53	0.27	0.17	3.38	--
AMARO WEREDA	--	--	--	--	--
BURJI WEREDA	--	--	--	--	--
GARDULA WEREDA	--	--	--	--	--
KONSO WEREDA	6.94	0.45	--	0.70	--
YEM WEREDA	0.22	--	--	--	--
TOTAL	271.41	2.70	1.00	63.55	--

TABLE 2.5 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES
BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95 (1987 E.C.)

HARARI

CROP	TOTAL BELG CROP AREA	AREA ('000 HECTARES)			
		IRRIGATED	IMPROVED SEEDS	FERTILIZER APPLIED	PESTICIDE APPLIED
PULSES	0.15	-	-	0.02	-
HORSE BEANS	-	-	-	-	-
CHICK PEAS	-	-	-	-	-
HARICOT BEANS	0.15	-	-	0.02	-
FIELD PEAS	-	-	-	-	-
LENTILS	-	-	-	-	-
VETCH	-	-	-	-	-
TOTAL	0.15	-	-	0.02	-

TABLE 2.6 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES FOR
BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95 (1987 E.C.)

DIRE DAWA

CROP	TOTAL BELG CROP AREA	AREA ('000 HECTARES)			
		IRRIGATED	IMPROVED SEEDS	FERTILIZER APPLIED	PESTICIDE APPLIED
CEREALS	0.19	0.16	-	0.11	-
TEFF	-	-	-	-	-
BARLEY	-	-	-	-	-
WHEAT	-	-	-	-	-
MAIZE	0.19	0.16	-	0.11	-
SORGHUM	-	-	-	-	-
MILLET	-	-	-	-	-
OATS	-	-	-	-	-
TOTAL	0.19	0.16	-	0.11	-

1.4 TOTAL FERTILIZER APPLIED AREA BY TYPE

The results of the survey indicate that land area under both natural and commercial fertilizers were estimated to be 89.44 and 102.28 thousand hectares, covering 14.02 % and 13.64% of the total area of belg seasons crops of private holdings in 1993/94 (1986 E.C.) and 1994/95 (1987 E.C.), respectively. Of these totals, in 1993/94 (1986 E.C.) 23.23 thousand hectares (25.97%) was reported to be the area under natural fertilizers. The coverage of commercial fertilizers was estimated to be 64.86 thousand hectares (72.52%), constituting of 60.49% Dap, 11.87% Urea and 0.16% mix of the two fertilizers (DAP+UREA).

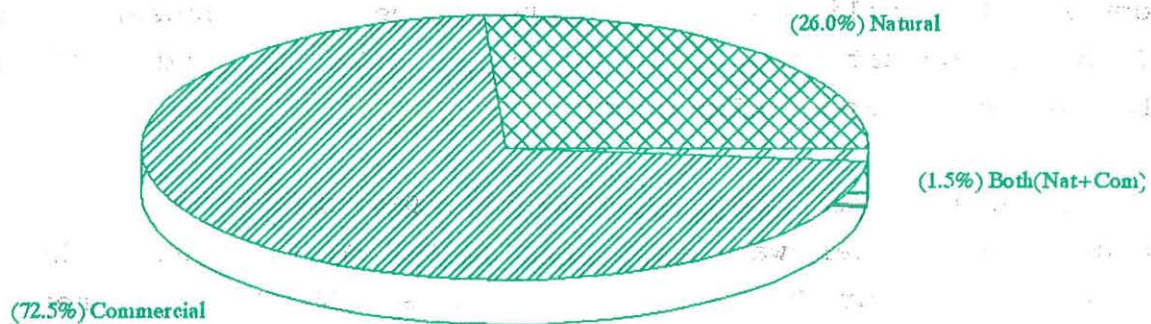
On the other hand, in 1994/95 (1987 E.C.), the area under natural fertilizer was estimated to be 31.51 thousand hectares (30.81%). About 70 thousand hectares (68.82%) of area was estimated to be under commercial fertilizers, in which 63.09 thousand hectares (61.68%) and 7.22 thousand hectares (7.06%) were under DAP and Urea, respectively. The remaining, 0.38 (0.37%) thousand hectares was under the mix of the two types of fertilizers (DAP+UREA) (For details see Summary Table E)

As shown in Table E, comparison was made for the total fertilized area of 1993/94 (1986 E.C.) and 1994/95 (1987 E.C.) by type of fertilizer for belg season crops. The survey results show that in 1994/95 (1987 E.C.) total area under both (natural+commercial) fertilizers has increased by 14.36% as compared to that of 1993/94(1986 E.C.) estimate.

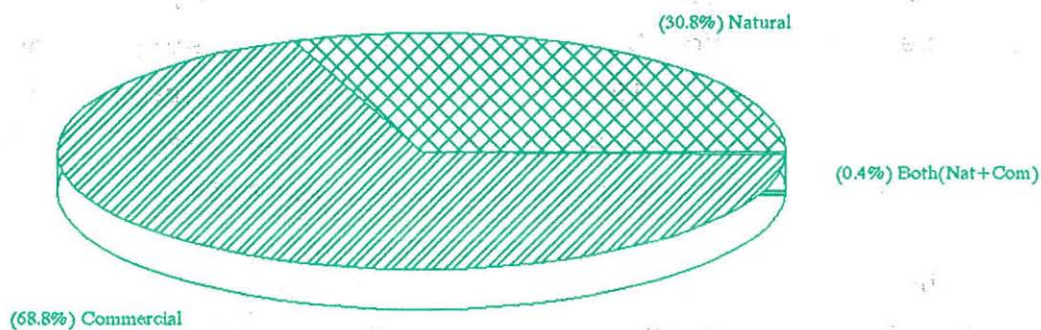
Although the overall increase of 35.64% was reported for area under natural fertilizer, an increase by 8.53% was also reported for area under commercial fertilizer. The increase in commercial fertilizer was observed only for DAP(16.62%) (For details see Summary Table E & Figure 2).

Figure 2. Estimates of fertilizer applied area by type for belg season crops of private holdings in Ethiopia.

a) 1993/94(1986 E.C.)



b) 1994/95 (1987 E.C.)



SUMMARY TABLE E. TOTAL AREA UNDER FERTILIZER APPLICATION BY TYPE OF FERTILIZER FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, 1993/94(1986 E.C.) AND 1994/95 (1987 E.C.)

SR. NO	TYPE OF FERTILIZER	AREA ('000 HECTARES)				
		AREA UNDER FERTILIZER APPLICATION				
		1993/94 (1986 E.C.)	%	1994/95 (1987 E.C.)	%	% CHANGE
1	NATURAL	23.23	25.97	31.51	30.81	35.64
2	COMMERCIAL	64.86	72.52	70.39	68.82	8.53
2.1	DAP	54.10	60.49	63.09	61.68	16.62
2.2	UREA	10.62	11.87	7.22	7.06	-32.02
2.3	DAP + UREA	0.14	0.16	0.08	0.08	-42.86
3	BOTH(COM+NAT)	1.35	1.51	0.38	0.37	-71.85
	TOTAL	89.44	100.00	102.28	100.00	14.36

A. USE OF NATURAL FERTILIZERS

Natural fertilizers are fertilizers, such as farm yard manure, crop residue, and wood ashes etc. which are commonly used by private peasants of Ethiopia as a means of maintaining and upgrading their farm plots fertility to attain higher productivity.

In general the application of natural fertilizers for belg season crops in 1993/94(1986 E.C.) and 1994/95(1987 E.C.), varies from crop to crop. Of the total natural fertilizer applied in both years, the highest proportion was reported for maize crop which were estimated to be 10.26 thousand hectares (44.17%) in 1993/94(1986 E.C.), and 24.76 thousand hectares (78.60%) in 1994/95(1987 E.C.). The fertilized area (natural fertilizer) under barley was estimated to be 9.68 thousand hectares in 1993/94 (1986 e.c.), and 5.22 in 1994/95(1987 E.C.). The smallest area under natural fertilizer was for field peas(0.26%) in 1993/94(1986 E.C.), and for wheat (0.60%) in 1994/95(1987 E.C.).

B. USE OF COMMERCIAL FERTILIZERS

Commercial fertilizer refers to industrially produced fertilizers; such as UREA, DAP and POTASH etc. Data on use of both natural and commercial fertilizers were collected by interviewing the sampled holders. In Ethiopia the two most commonly used commercial fertilizers have distinct colors in which peasants could easily tell the color of commercial fertilizer they used. The names and color of the two commonly used commercial fertilizers are:-

I. Di-Ammonium Phosphate (DAP) which is Grey in color, and

II. Ammonium Nitrate (UREA) which is White in color.

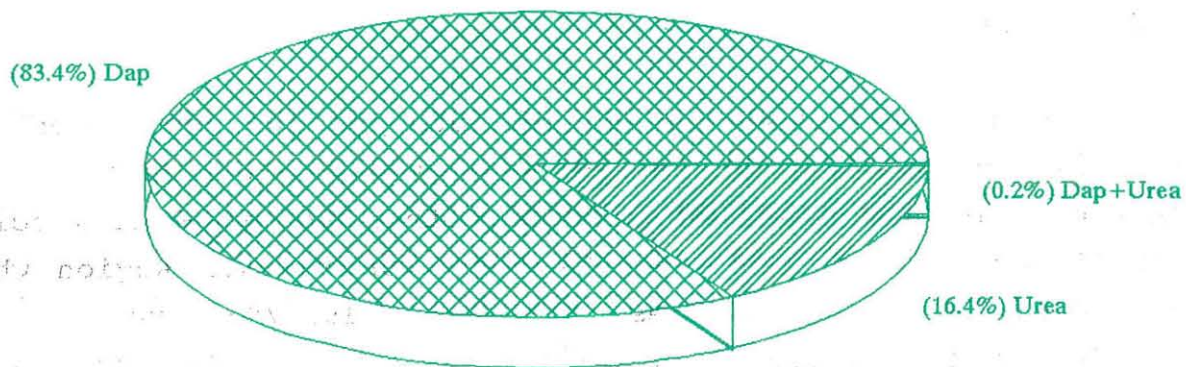
Out of the total land area under commercial fertilizers in 1993/94(1986 E.C.) belg season, the coverage by DAP was the highest which accounted for 83.4%, by UREA 16.4%, while the mix of the two fertilizers (DAP+Urea) was covering 0.2% of the land area (see Figure 3).

The same trend is followed in 1994/95(1987 E.C.). Out of the total area under commercial fertilizers, the area under DAP was the highest which accounted for 89.6%, followed by UREA 10.3% and 0.1% of area under the mix of the two fertilizers (DAP+UREA) (see Figure 3).

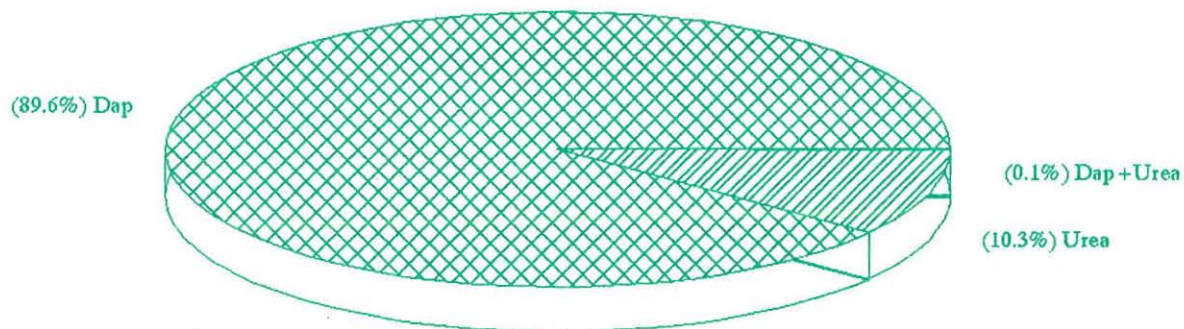
Tables 3 and 4 present the estimated area under commercial fertilizers by crop type for belg seasons. In 1993/94(1986 E.C.), of the total area under commercial fertilizers, the highest area was reported for maize at 22.75 thousand hectares (35.08%). Moreover, the area reported under commercial fertilizers for barley and teff were 20.24 thousand hectares (31.21%) and 9.41 thousand hectares (14.51%), respectively.

Figure 3. Estimates of Commercial fertilizer applied area by type for belg season crops of private holdings in Ethiopia.

a) 1993/94 (1986 E.C.)



b) 1994/95 (1987 E.C.)



Similarly in 1994/95(1987 E.C.), of the total area under commercial fertilizer the highest area was reported for maize, at 33.25 thousand hectares (47.24%). Barley and haricot beans stood second and third sharing 30.36% and 9.21%, respectively.

The smallest land area under the application of commercial fertilizer was reported for fenugreek in 1993/94(1986 E.C.), and for chick peas in 1994/95(1987 E.C.) (For details see Tables 3 and 4).

The regional distribution of both natural and commercial fertilizers application varied from region to region. For instance, of the total area under both (Natural + Commercial) fertilizers, the highest was reported for S.N.N.P Region which accounted for 40,610 hectares, (45.40%) in 1993/94 (1986 E.C) and 63,550 hectares, (62.14%) in 1994/95 (1987 E.C.). Oromiya was the second highest in both years.

1993/94 (1986 E.C.) BELG SEASON RESULTS

TABLE 3. ESTIMATES OF FERTILIZER APPLIED AREA BY TYPE OF FERTILIZER FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

ETHIOPIA

CROP	AREA('000 HECTARES)													
	TOTAL (COM+NAT)	%	NATURAL	%	COMM- ERCIAL	%	DAP	%	UREA	%	DAP +UREA	%	BOTH (COM+NAT)	%
CEREALS	78.81	88.11	21.01	90.44	56.53	87.16	46.24	85.47	10.15	95.57	0.14	100.00	1.27	94.07
TEFF	9.63	10.77	0.22	0.95	9.41	14.51	7.34	13.57	2.07	19.49	-	-	-	-
BARLEY	30.12	33.68	9.68	41.67	20.24	31.21	15.24	28.17	4.94	46.52	0.06	42.86	0.20	14.81
WHEAT	2.38	2.66	0.30	1.29	1.86	2.87	1.45	2.68	0.41	3.86	-	-	0.22	16.30
MAIZE	33.86	37.86	10.26	44.17	22.75	35.08	20.23	37.39	2.44	22.98	0.08	57.14	0.85	62.96
SORGHUM	0.64	0.72	0.35	1.51	0.29	0.45	0.29	0.54	-	-	-	-	-	-
MILLET	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OATS	2.18	2.44	0.20	0.86	1.98	3.05	1.69	3.12	0.29	2.73	-	-	-	-
PULSES	10.44	11.67	2.05	8.82	8.31	12.81	7.84	14.49	0.47	4.43	-	-	0.08	5.93
HORSE BEANS	0.08	0.09	0.08	0.34	-	-	-	-	-	-	-	-	-	-
CHICK PEAS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HARICOT BEANS	9.73	10.88	1.77	7.62	7.88	12.15	7.41	13.70	0.47	4.43	-	-	0.08	5.93
FIELD PEAS	0.49	0.55	0.06	0.26	0.43	0.66	0.43	0.79	-	-	-	-	-	-
LENTILS	0.14	0.16	0.14	0.60	-	-	-	-	-	-	-	-	-	-
VETCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OTHERS	0.19	0.21	0.17	0.73	0.02	0.03	0.02	0.04	-	-	-	-	-	-
NEUG	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LINSEED	0.17	0.19	0.17	0.73	-	-	-	-	-	-	-	-	-	-
FENUGREEK	0.02	0.02	-	-	0.02	0.03	0.02	0.04	-	-	-	-	-	-
RAPESEED	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	89.44	100.00	23.23	100.00	64.86	100.00	54.10	100.00	10.62	100.00	0.14	100.00	1.35	100.00

TABLE 3.1 ESTIMATES OF FERTILIZER APPLIED AREA BY REGION AND TYPE OF FERTILIZER FOR
BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)
AREA ('000 HECTARES)

REGION	TOTAL (COM+NAT)	%	NATURAL	%	COMM- ERCIAL	%	DAP	%	UREA	%	DAP +UREA	%	BOTH (COM+NAT)	%
TIGRAY	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AFAR	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AMHARA	8.86	9.91	6.45	27.77	2.41	3.72	1.77	3.27	0.64	6.03	-	-	-	-
OROMIA	39.90	44.61	6.43	27.68	33.25	51.26	28.22	52.16	5.03	47.36	-	-	0.22	16.30
BENSHANGULGUMEZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S.N.N.P.R	40.61	45.40	10.29	44.30	29.20	45.02	24.11	44.57	4.95	46.61	0.14	100.00	1.12	82.96
GAMBELA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HARARI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ADDIS ABABA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIRE DAWA	0.07	0.08	0.06	0.26	-	-	-	-	-	-	-	-	0.01	0.74
TOTAL	89.44	100.00	23.23	100.00	64.86	100.00	54.10	100.00	10.62	100.00	0.14	100.00	1.35	100.00

TABLE 3.2

ESTIMATES OF FERTILIZER APPLIED AREA BY TYPE OF FERTILIZER FOR BELG
SEASON CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

AMHARA

CROP	AREA('000 HECTARES)													
	TOTAL (COM+NAT)	%	NATURAL	%	COMM- ERCIAL	%	DAP	%	UREA	%	DAP +UREA	%	BOTH (COM+NAT)	%
CEREALS	8.84	99.77	6.45	100.00	2.39	99.17	1.75	98.87	0.64	100.00	-	-	-	-
TEFF	0.56	6.32	0.11	1.71	0.45	18.67	0.45	25.42	-	-	-	-	-	-
BARLEY	8.07	91.08	6.13	95.04	1.94	80.50	1.30	73.45	0.64	100.00	-	-	-	-
WHEAT	0.13	1.47	0.13	2.02	-	-	-	-	-	-	-	-	-	-
MAIZE	0.07	0.79	0.07	1.09	-	-	-	-	-	-	-	-	-	-
SORGHUM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MILLET	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OATS	0.01	0.11	0.01	0.16	-	-	-	-	-	-	-	-	-	-
PULSES	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HORSE BEANS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHICK PEAS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HARICOT BEANS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FIELD PEAS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LENTILS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VETCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OTHERS	0.02	0.23	-	-	0.02	0.83	0.02	1.13	-	-	-	-	-	-
NEUG	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LINSEED	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FENUGREEK	0.02	0.23	-	-	0.02	0.83	0.02	1.13	-	-	-	-	-	-
RAPESEED	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	8.86	100.00	6.45	100.00	2.41	100.00	1.77	100.00	0.64	100.00	-	-	-	-

TABLE 3.2.1

ESTIMATES OF FERTILIZER APPLIED AREA BY TYPE OF FERTILIZER FOR BELG
SEASON CROPS OF PRIVATE HOLDINGS IN AMHARA REGION BY
ZONE, 1993/94 (1986 E.C)

ZONE	AREA('000 HECTARES)													
	TOTAL (COM+NAT)	%	NATURAL	%	COMM- ERCIAL	%	DAP	%	UREA	%	DAP +UREA	%	BOTH (COM+NAT)	%
AGEWAWI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EAST GOJAM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEST GOJAM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NORTH GONDER	1.99	22.46	0.07	1.09	1.92	79.67	1.28	72.32	0.64	100.00	-	-	-	-
SOUTH GONDER	0.07	0.79	0.07	1.09	-	-	-	-	-	-	-	-	-	-
NORTH SHOA	2.31	26.07	2.31	35.81	-	-	-	-	-	-	-	-	-	-
OROMIA	0.03	0.34	0.03	0.47	-	-	-	-	-	-	-	-	-	-
WAG-HAMRA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NORTH WOLLO	0.51	5.76	0.51	7.91	-	-	-	-	-	-	-	-	-	-
SOUTH WOLLO	3.95	44.58	3.46	53.64	0.49	20.33	0.49	27.68	-	-	-	-	-	-
TOTAL	8.86	100.00	6.45	100.00	2.41	100.00	1.77	100.00	0.64	100.00	-	-	-	-

TABLE 3.3

ESTIMATES OF FERTILIZER APPLIED AREA BY TYPE OF FERTILIZER FOR BELG
SEASON CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

OROMIA

CROP	AREA('000 HECTARES)													
	TOTAL (COM+NAT)	%	NATURAL	%	COMM- ERCIAL	%	DAP	%	UREA	%	DAP +UREA	%	BOTH (COM+NAT)	%
CEREALS	38.75	97.12	5.73	89.11	32.80	98.65	27.77	98.41	5.03	100.00	-	-	0.22	100.00
TEFF	5.65	14.16	0.11	1.71	5.54	16.66	5.48	19.42	0.06	1.19	-	-	-	-
BARLEY	17.37	43.53	0.87	13.53	16.50	49.62	12.41	43.98	4.09	81.31	-	-	-	-
WHEAT	2.24	5.61	0.17	2.64	1.85	5.56	1.44	5.10	0.41	8.15	-	-	0.22	100.00
MAIZE	10.76	26.97	4.12	64.07	6.64	19.97	6.46	22.89	0.18	3.58	-	-	-	-
SORGHUM	0.56	1.40	0.27	4.20	0.29	0.87	0.29	1.03	-	-	-	-	-	-
MILLET	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OATS	2.17	5.44	0.19	2.95	1.98	5.95	1.69	5.99	0.29	5.77	-	-	-	-
PULSES	0.98	2.46	0.53	8.24	0.45	1.35	0.45	1.59	-	-	-	-	-	-
HORSE BEANS	0.08	0.20	0.08	1.24	-	-	-	-	-	-	-	-	-	-
CHICK PEAS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HARICOT BEANS	0.27	0.68	0.25	3.89	0.02	0.06	0.02	0.07	-	-	-	-	-	-
FIELD PEAS	0.49	1.23	0.06	0.93	0.43	1.29	0.43	1.52	-	-	-	-	-	-
LENTILS	0.14	0.35	0.14	2.18	-	-	-	-	-	-	-	-	-	-
VETCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OTHERS	0.17	0.43	0.17	2.64	-	-	-	-	-	-	-	-	-	-
NEUG	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LINSEED	0.17	0.43	0.17	2.64	-	-	-	-	-	-	-	-	-	-
FENUGREEK	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RAPESEED	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	39.90	100.00	6.43	100.00	33.25	100.00	28.22	100.00	5.03	100.00	-	-	0.22	100.00

TABLE 3.3.1

ESTIMATES OF FERTILIZER APPLIED AREA BY TYPE OF FERTILIZER FOR BELG
SEASON CROPS OF PRIVATE HOLDINGS IN OROMIA REGION BY
ZONE, 1993/94 (1986 E.C)

ZONE	AREA('000 HECTARES)													
	TOTAL (COM+NAT)	%	NATURAL	%	COMM- ERCIAL	%	DAP	%	UREA	%	DAP +UREA	%	BOTH (COM+NAT)	%
ARSI	12.21	30.60	0.43	6.69	11.78	35.43	8.99	31.86	2.79	55.47	-	-	-	-
BALE	9.71	24.34	-	-	9.71	29.20	7.83	27.75	1.88	37.38	-	-	-	-
BORENA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EAST HARARGHE	2.55	6.39	2.55	39.66	-	-	-	-	-	-	-	-	-	-
WEST HARARGHE	1.53	3.83	1.53	23.79	-	-	-	-	-	-	-	-	-	-
ILLUBABOR	0.75	1.88	0.75	11.66	-	-	-	-	-	-	-	-	-	-
JIMA	10.92	27.37	0.61	9.49	10.31	31.01	10.31	36.53	-	-	-	-	-	-
EAST SHOA	0.74	1.85	-	-	0.74	2.23	0.68	2.41	0.06	1.19	-	-	-	-
NORTH SHOA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEST SHOA	1.04	2.61	0.49	7.62	0.33	0.99	0.11	0.39	0.22	4.37	-	-	0.22	100.00
EAST WELLEGA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEST WELLEGA	0.45	1.13	0.07	1.09	0.38	1.14	0.30	1.06	0.08	1.59	-	-	-	-
TOTAL	39.90	100.00	6.43	100.00	33.25	100.00	28.22	100.00	5.03	100.00	-	-	0.22	100.00

TABLE 3.4

ESTIMATES OF FERTILIZER APPLIED AREA BY TYPE OF FERTILIZER FOR BELG
SEASON CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

S.N.N.P.R

CROP	AREA('000 HECTARES)													
	TOTAL (COM+NAT)	%	NATURAL	%	COMM- ERCIAL	%	DAP	%	UREA	%	DAP +UREA	%	BOTH (COM+NAT)	%
CEREALS	31.15	76.71	8.77	85.23	21.34	73.08	16.72	69.35	4.48	90.51	0.14	100.00	1.04	92.86
TEFF	3.42	8.42	-	-	3.42	11.71	1.41	5.85	2.01	40.61	-	-	-	-
BARLEY	4.68	11.52	2.68	26.04	1.80	6.16	1.53	6.35	0.21	4.24	0.06	42.86	0.20	17.86
WHEAT	0.01	0.02	0.00	0.00	0.01	0.03	0.01	0.04	-	-	-	-	-	-
MAIZE	22.96	56.54	6.01	58.41	16.11	55.17	13.77	57.11	2.26	45.66	0.08	57.14	0.84	75.00
SORGHUM	0.08	0.20	0.08	0.78	-	-	-	-	-	-	-	-	-	-
MILLET	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OATS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PULSES	9.46	23.29	1.52	14.77	7.86	26.92	7.39	30.65	0.47	9.49	-	-	0.08	7.14
HORSE BEANS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHICK PEAS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HARICOT BEANS	9.46	23.29	1.52	14.77	7.86	26.92	7.39	30.65	0.47	9.49	0.00	0.00	0.08	7.14
FIELD PEAS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LENTILS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VETCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	40.61	100.00	10.29	100.00	29.20	100.00	24.11	100.00	4.95	100.00	0.14	100.00	1.12	100.00

TABLE 3.4.1

ESTIMATES OF FERTILIZER APPLIED AREA BY TYPE OF FERTILIZER FOR BELG
SEASON CROPS OF PRIVATE HOLDINGS IN S.N.N.P.R BY
ZONE, 1993/94 (1986 E.C)

ZONE	AREA('000 HECTARES)													
	TOTAL (COM+NAT)	%	NATURAL	%	COMM- ERCIAL	%	DAP	%	UREA	%	DAP +UREA	%	BOTH (COM+NAT)	%
BENCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GEDIO	0.15	0.37	0.15	1.46	-	-	-	-	-	-	-	-	-	-
GURAGHE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HADIYA	2.21	5.44	0.07	0.68	2.14	7.33	2.06	8.54	0.08	1.62	-	-	-	-
KEMBATA	2.72	6.70	0.17	1.65	2.55	8.73	2.55	10.58	-	-	-	-	-	-
KEFICHO	0.05	0.12	0.05	0.49	-	-	-	-	-	-	-	-	-	-
MAJI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NORTH OMO	29.37	72.32	9.14	88.82	19.15	65.58	15.74	65.28	3.27	66.06	0.14	100.00	1.08	96.43
SOUTH OMO	0.03	0.07	0.03	0.29	-	-	-	-	-	-	-	-	-	-
SHEKICHO	0.04	0.10	0.04	0.39	-	-	-	-	-	-	-	-	-	-
SIDAMA	5.74	14.13	0.34	3.30	5.36	18.36	3.76	15.60	1.60	32.32	-	-	0.04	3.57
AMARO WEREDA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BURJI WEREDA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GARDULA WEREDA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KONSO WEREDA	0.30	0.74	0.30	2.92	-	-	-	-	-	-	-	-	-	-
YEM WEREDA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	40.61	100.00	10.29	100.00	29.20	100.00	24.11	100.00	4.95	100.00	0.14	100.00	1.12	100.00

TABLE 3.5

ESTIMATES OF FERTILIZER APPLIED AREA BY TYPE OF FERTILIZER FOR BELG
SEASON CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

DIRE DAWA

CROP	AREA('000 HECTARES)													
	TOTAL (COM+NAT)	%	NATURAL	%	COMM- ERCIAL	%	DAP	%	UREA	%	DAP +UREA	%	BOTH (COM+NAT)	%
CEREALS	0.07	100.00	0.06	100.00	-	-	-	-	-	-	-	-	0.01	100.00
TEFF	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARLEY	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WHEAT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAIZE	0.07	100.00	0.06	100.00	-	-	-	-	-	-	-	-	0.01	100.00
SORGHUM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MILLET	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OATS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0.07	100.00	0.06	100.00	-	-	-	-	-	-	-	-	0.01	100.00

1994/95 (1987 E.C.) BELG SEASON RESULTS

TABLE 4. ESTIMATES OF FERTILIZER APPLIED AREA BY TYPE OF FERTILIZER FOR BELG
SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C.)

ETHIOPIA

CROP	AREA('000 HECTARES)													
	TOTAL (COM+NAT)	%	NATURAL	%	COMM- ERCIAL	%	DAP	%	UREA	%	DAP + UREA	%	BOTH (COM+NAT)	%
CEREALS	92.93	90.86	30.98	98.32	61.61	87.53	56.50	89.55	5.03	69.67	0.08	100.00	0.34	89.47
TEFF	1.92	1.88	0.28	0.89	1.64	2.33	1.14	1.81	0.50	6.93	-	-	-	-
BARLEY	26.68	26.09	5.22	16.57	21.37	30.36	20.00	31.70	1.37	18.98	-	-	0.09	23.68
WHEAT	4.03	3.94	0.19	0.60	3.84	5.46	3.84	6.09	-	-	-	-	-	-
MAIZE	58.26	56.97	24.76	78.60	33.25	47.24	30.07	47.66	3.10	42.94	0.08	100.00	0.25	65.79
SORGHUM	0.32	0.31	0.25	0.79	0.07	0.10	0.07	0.11	-	-	-	-	-	-
MILLET	0.48	0.47	-	-	0.48	0.68	0.48	0.76	-	-	-	-	-	-
OATS	1.23	1.20	0.27	0.87	0.96	1.36	0.90	1.43	0.06	0.83	-	-	-	-
PULSES	9.30	9.09	0.53	1.68	8.73	12.40	6.54	10.37	2.19	30.33	-	-	0.04	10.53
HORSE BEANS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHICK PEAS	0.04	0.04	-	-	0.04	0.06	0.04	0.06	-	-	-	-	-	-
HARICOT BEANS	7.05	6.89	0.53	1.68	6.48	9.21	4.39	6.96	2.09	28.95	-	-	0.04	10.53
FIELD PEAS	2.21	2.16	-	-	2.21	3.14	2.11	3.34	0.10	1.39	-	-	-	-
LENTILS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VETCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OTHERS	0.05	0.05	-	-	0.05	0.07	0.05	0.08	-	-	-	-	-	-
NEUG	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LINSEED	0.05	0.05	-	-	0.05	0.07	0.05	0.08	-	-	-	-	-	-
FENUGREEK	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RAPESEED	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	102.28	100.00	31.51	100.00	70.39	100.00	63.09	100.00	7.22	100.00	0.08	100.00	0.38	100.00

TABLE 4.1 ESTIMATES OF FERTILIZER APPLIED AREA BY REGION AND TYPE OF FERTILIZER FOR
BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C.)
AREA ('000 HECTARES)

REGION	TOTAL (COM+NAT)	%	NATURAL	%	COMM- ERCIAL	%	DAP	%	UREA	%	DAP +UREA	%	BOTH (COM+NAT)	%
TIGRAY	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AFAR	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AMHARA	4.92	4.81	3.04	9.64	1.88	2.67	1.88	2.98	-	-	-	-	-	-
OROMIA	33.68	32.93	4.48	14.22	29.04	41.26	26.72	42.35	2.32	32.13	-	-	0.16	42.11
BENSHANGULGUMEZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S.N.N.P.R	63.55	62.14	23.90	75.86	39.43	56.02	34.47	54.64	4.88	67.59	0.08	100.00	0.22	57.89
GAMBELA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HARARI	0.02	0.02	-	-	0.02	0.03	-	-	0.02	0.28	-	-	-	-
ADDIS ABABA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIRE DAWA	0.11	0.11	0.09	0.29	0.02	0.03	0.02	0.03	-	-	-	-	-	-
TOTAL	102.28	100.00	31.51	100.00	70.39	100.00	63.09	100.00	7.22	100.00	0.08	100.00	0.38	100.00

TABLE 4.2

ESTIMATES OF FERTILIZER APPLIED AREA BY TYPE OF FERTILIZER FOR BELG
SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95 (1987 E.C.)

AMHARA

AREA ('000 HECTARES)

CROP	TOTAL (COM+NAT)		NATURAL		COMM- ERCIAL		DAP		UREA		DAP + UREA		BOTH (COM+NAT)	
		%		%		%		%		%		%		%
CEREALS	4.76	96.75	2.92	96.05	1.84	97.87	1.84	97.87	-	-	-	-	-	-
TEFF	0.66	13.42	0.23	7.57	0.43	22.87	0.43	22.87	-	-	-	-	-	-
BARLEY	3.73	75.86	2.59	85.28	1.14	60.64	1.14	60.64	-	-	-	-	-	-
WHEAT	0.22	4.47	0.04	1.32	0.18	9.57	0.18	9.57	-	-	-	-	-	-
MAIZE	0.13	2.70	0.04	1.42	0.09	4.79	0.09	4.79	-	-	-	-	-	-
SORGHUM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MILLET	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OATS	0.01	0.28	0.01	0.46	-	-	-	-	-	-	-	-	-	-
PULSES	0.16	3.25	0.12	3.95	0.04	2.13	0.04	2.13	-	-	-	-	-	-
HORSE BEANS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHICK PEAS	0.04	0.81	-	-	0.04	2.13	0.04	2.13	-	-	-	-	-	-
HARICOT BEANS	0.12	2.44	0.12	3.95	-	-	-	-	-	-	-	-	-	-
FIELD PEAS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LENTILS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VETCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	4.92	100.00	3.04	100.00	1.88	100.00	1.88	100.00						

TABLE 4.21

ESTIMATES OF FERTILIZER APPLIED AREA BY TYPE OF FERTILIZER FOR BELG
SEASON CROPS OF PRIVATE HOLDINGS IN AMHARA REGION BY
ZONE, 1994/95 (1987 E.C.)

ZONE	AREA('000 HECTARES)													
	TOTAL (COM+NAT)	%	NATURAL	%	COMM- ERCIAL	%	DAP	%	UREA	%	DAP + UREA	%	BOTH (COM+NAT)	%
AGEWAWI	0.10	2.03	0.01	0.33	0.09	4.79	0.09	-	-	-	-	-	-	-
EAST GOJAM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEST GOJAM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NORTH GONDER	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SOUTH GONDER	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NORTH SHOA	2.71	55.11	1.39	45.77	1.32	70.21	1.32	-	-	-	-	-	-	-
OROMIA	0.01	0.26	0.01	0.43	-	-	0.00	-	-	-	-	-	-	-
WAG-HAMRA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NORTH WOLLO	0.12	2.52	0.01	0.46	0.11	5.85	0.11	-	-	-	-	-	-	-
SOUTH WOLLO	1.97	40.07	1.61	53.01	0.36	19.15	0.36	-	-	-	-	-	-	-
TOTAL	4.92	100.00	3.04	100.00	1.88	100.00	1.88	-	-	-	-	-	-	-

TABLE 4.3

ESTIMATES OF FERTILIZER APPLIED AREA BY TYPE OF FERTILIZER FOR BELG
SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C.)

OROMIA

CROP	AREA('000 HECTARES)													
	TOTAL (COM+NAT)	%	NATURAL	%	COMM- ERCIAL	%	DAP	%	UREA	%	DAP +UREA	%	BOTH (COM+NAT)	%
CEREALS	31.15	92.49	4.48	100.00	26.51	91.29	24.24	90.72	2.27	97.84	-	-	0.16	100.00
TEFF	0.62	1.84	-	-	0.62	2.13	0.24	0.90	0.38	16.38	-	-	-	-
BARLEY	19.73	58.58	0.54	12.05	19.11	65.81	17.83	66.73	1.28	55.17	-	-	0.08	50.00
WHEAT	3.81	11.31	0.15	3.35	3.66	12.60	3.66	13.70	-	-	-	-	-	-
MAIZE	5.77	17.13	3.53	78.79	2.16	7.44	1.61	6.03	0.55	23.71	-	-	0.08	50.00
SORGHUM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MILLET	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OATS	1.22	3.62	0.26	5.80	0.96	3.31	0.90	3.37	0.06	2.59	-	-	-	-
PULSES	2.48	7.36	-	-	2.48	8.54	2.43	9.09	0.05	2.16	-	-	-	-
HORSE BEANS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHICK PEAS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HARICOT BEANS	0.32	0.95	-	-	0.32	1.10	0.32	1.20	-	-	-	-	-	-
FIELD PEAS	2.16	6.41	-	-	2.16	7.44	2.11	7.90	0.05	2.16	-	-	-	-
LENTILS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VETCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OTHERS	0.05	0.15	-	-	0.05	0.17	0.05	0.19	-	-	-	-	-	-
NEUG	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LINSEED	0.05	0.15	-	-	0.05	0.17	0.05	0.19	-	-	-	-	-	-
FENUGREEK	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RAPESEED	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	33.68	100.00	4.48	100.00	29.04	100.00	26.72	100.00	2.32	100.00	-	-	0.16	100.00

TABLE 4.3.1

ESTIMATES OF FERTILIZER APPLIED AREA BY TYPE OF FERTILIZER FOR BELG
SEASON CROPS OF PRIVATE HOLDINGS IN OROMIA REGION BY
ZONE, 1994/95 (1987 E.C.)

ZONE	AREA('000 HECTARES)													
	TOTAL (COM+NAT)	%	NATURAL	%	COMM- ERCIAL	%	DAP	%	UREA	%	DAP + UREA	%	BOTH (COM+NAT)	%
ARSI	22.94	68.11	1.31	29.24	21.63	74.48	20.48	76.65	1.15	49.57	-	-	-	-
BALE	6.22	18.47	0.05	1.12	6.17	21.25	5.51	20.62	0.66	28.45	-	-	-	-
BORENA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EAST HARARGHE	2.60	7.72	2.36	52.68	0.08	0.28	-	-	0.08	3.45	-	-	0.16	100.00
WEST HARARGHE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ILLUBABOR	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JIMA	0.65	1.93	0.65	14.51	-	-	-	-	-	-	-	-	-	-
EAST SHOA	0.81	2.40	-	-	0.81	2.79	0.43	1.61	0.38	16.38	-	-	-	-
NORTH SHOA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEST SHOA	0.15	0.45	0.09	2.01	0.06	0.21	0.06	0.22	-	-	-	-	-	-
EAST WELLEGA	0.02	0.06	0.02	0.45	-	-	-	-	-	-	-	-	-	-
WEST WELLEGA	0.29	0.86	-	-	0.29	1.00	0.24	0.90	0.05	2.16	-	-	-	-
TOTAL	33.68	100.00	4.48	100.00	29.04	100.00	26.72	100.00	2.32	100.00	-	-	0.16	100.00

TABLE 4.4

ESTIMATES OF FERTILIZER APPLIED AREA BY TYPE OF FERTILIZER FOR BELG
SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C.)

S.N.N.P.R

CROP	AREA('000 HECTARES)													
	TOTAL (COM+NAT)	%	NATURAL	%	COMM- ERCIAL	%	DAP	%	UREA	%	DAP + UREA	%	BOTH (COM+NAT)	%
CEREALS	56.91	89.55	23.49	98.28	33.24	84.30	30.40	88.19	2.76	56.56	0.08	100.00	0.18	81.82
TEFF	0.64	1.01	0.05	0.21	0.59	1.50	0.47	1.36	0.12	2.46	-	-	-	-
BARLEY	3.22	5.07	2.09	8.74	1.12	2.84	1.03	2.99	0.09	1.84	-	-	0.01	4.55
WHEAT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAIZE	52.25	82.22	21.10	88.28	30.98	78.57	28.35	82.25	2.55	52.25	0.08	100.00	0.17	77.27
SORGHUM	0.32	0.50	0.25	1.05	0.07	0.18	0.07	0.20	-	-	-	-	-	-
MILLET	0.48	0.76	-	-	0.48	1.22	0.48	1.39	-	-	-	-	-	-
OATS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PULSES	6.64	10.45	0.41	1.72	6.19	15.70	4.07	11.81	2.12	43.44	-	-	0.04	18.18
HORSE BEANS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHICK PEAS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HARICOT BEANS	6.59	10.37	0.41	1.72	6.14	15.57	4.07	11.81	2.07	42.42	-	-	0.04	18.18
FIELD PEAS	0.05	0.08	-	-	0.05	0.13	-	-	0.05	1.02	-	-	-	-
LENTILS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VETCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	63.55	100.00	23.90	100.00	39.43	100.00	34.47	100.00	4.88	100.00	0.08	100.00	0.22	100.00

TABLE 4.4.1

ESTIMATES OF FERTILIZER APPLIED AREA BY TYPE OF FERTILIZER FOR BELG
SEASON CROPS OF PRIVATE HOLDINGS IN S.N.N.P.R BY
ZONE, 1994/95 (1987 E.C.)

ZONE	AREA('000 HECTARES)													
	TOTAL (COM+NAT)	%	NATURAL	%	COMM- ERCIAL	%	DAP	%	UREA	%	DAP + UREA	%	BOTH (COM+NAT)	%
BENCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GEDIO	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GURAGHE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HADIYA	2.68	4.22	0.08	0.33	2.60	6.59	2.60	7.54	-	-	-	-	-	-
KEMBATA	1.20	1.89	0.01	0.04	1.19	3.02	1.19	3.45	-	-	-	-	-	-
KEFICHO	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAJI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NORTH OMO	55.59	87.47	22.97	96.11	32.40	82.17	27.97	81.14	4.35	89.14	0.08	100.00	0.22	100.00
SOUTH OMO	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SHEKICHO	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SIDAMA	3.38	5.32	0.14	0.59	3.24	8.22	2.71	7.86	0.53	10.86	-	-	-	-
AMARO WEREDA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BURJI WEREDA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GARDULA WEREDA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KONSO WEREDA	0.70	1.10	0.70	2.93	-	-	-	-	-	-	-	-	-	-
YEM WEREDA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	63.55	100.00	23.90	100.00	39.43	100.00	34.47	100.00	4.88	100.00	0.08	100.00	0.22	100.00

TABLE 4.5

ESTIMATES OF FERTILIZER APPLIED AREA BY TYPE OF FERTILIZER FOR BELG
SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C.)

HARARI

CROP	AREA('000 HECTARES)													
	TOTAL (COM+NAT)	%	NATURAL	%	COMM- ERCIAL	%	DAP	%	UREA	%	DAP +UREA	%	BOTH (COM+NAT)	%
PULSES	0.02	100.00	-	-	0.02	100.00	-	-	0.02	100.00	-	-	-	-
HORSE BEANS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHICK PEAS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HARICOT BEANS	0.02	100.00	-	-	0.02	100.00	-	-	0.02	100.00	-	-	-	-
FIELD PEAS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LENTILS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VETCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0.02	100.00	-	-	0.02	100.00	-	-	0.02	100.00	-	-	-	-

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TABLE 4.6

ESTIMATES OF FERTILIZER APPLIED AREA BY TYPE OF FERTILIZER FOR BELG
SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C.)

DIRE DAWA

CROP	AREA('000 HECTARES)													
	TOTAL (COM+NAT)	%	NATURAL	%	COMM- ERCIAL	%	DAP	%	UREA	%	DAP +UREA	%	BOTH (COM+NAT)	%
CEREALS	0.11	100.00	0.09	100.00	0.02	100.00	0.02	100.00	-	-	-	-	-	-
TEFF	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARLEY	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WHEAT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAIZE	0.11	100.00	0.09	100.00	0.02	100.00	0.02	100.00	-	-	-	-	-	-
SORGHUM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MILLET	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OATS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0.11	100.00	0.09	100.00	0.02	100.00	0.02	100.00	-	-	-	-	-	-

1.5 QUANTITY OF COMMERCIAL FERTILIZER APPLICATION BY TYPE

According to the survey results, the total quantity of commercial fertilizer used for belg season crop production was estimated at 100.43 and 67.30 thousand quintals in 1993/94(1986 E.C.) and 1994/95(1987 E.C.), respectively. Of these totals, the share of DAP was the highest accounting for 90.41% in 1993/94(1986 E.C.) and 89.15% in 1994/95(1987 E.C.). Urea was the second highest sharing 9.59% in 1993/94 (1986 E.C.) and 10.79% in 1994/95(1987 E.C.). The mix of the two types of fertilizers (DAP+UREA) stood third sharing 0.06% in 1994/95(1987 E.C.).

As shown in Table F, comparison was made for quantity of commercial fertilizers applied in 1993/94 (1986 E.C.) and 1994/95 (1987 E.C.). Accordingly the quantity of commercial fertilizer used in 1994/95 (1987 E.C.) has decreased by 32.99% when compared to the former year. A decrease of 33.92% and 24.61% in the quantity applied were reported for DAP and Urea, respectively.

SUMMARY TABLE F. TOTAL QUANTITY OF APPLIED FERTILIZER BY TYPE OF FERTILIZER AND THEIR PERCENT CHANGE FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, 1993/94(1986 E.C.) AND 1994/95 (1987 E.C.)

TYPE OF FERTILIZER	QUANTITY('000 QUINTAL)				
	1993/94 (1986 E.C.)	%	1994/95 (1987 E.C.)	%	% CHANGE
DAP	90.80	90.41	60.00	89.15	-33.92
UREA	9.63	9.59	7.26	10.79	-24.61
DAP+UREA	-	-	0.04	0.06	-
TOTAL	100.43	100.00	67.30	100.00	-32.99

1993/94 (1986 E.C.) BELG SEASON RESULTS

TABLE 5. ESTIMATES OF QUANTITY OF COMMERCIAL FERTILIZER APPLIED BY TYPE OF FERTILIZER FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.) ETHIOPIA

CROP	TOTAL	DAP	QUANTITY('000 QUINTAL)	
			UREA	DAP + UREA
CEREALS	90.99	81.39	9.60	0.00
TEFF	9.99	9.28	0.71	-
BARLEY	17.40	13.45	3.95	0.00
WHEAT	2.39	1.52	0.87	-
MAIZE	57.28	53.48	3.80	0.00
SORGHUM	0.35	0.35	-	-
MILLET	-	-	-	-
OATS	3.58	3.31	0.28	-
PULSES	9.41	9.38	0.03	-
HORSE BEANS	-	-	-	-
CHICK PEAS	-	-	-	-
HARICOT BEANS	9.11	9.08	0.03	-
FIELD PEAS	0.30	0.30	-	-
LENILS	-	-	-	-
VETCH	-	-	-	-
OTHERS	0.03	0.03	-	-
NEUG	-	-	-	-
LINSEED	-	-	-	-
FENUGREEK	0.03	0.03	-	-
RAPESEED	-	-	-	-
TOTAL	100.43	90.80	9.63	0.00

TABLE 5.1 ESTIMATES OF QUANTITY OF COMMERCIAL FERTILIZER APPLIED BY REGION AND TYPE OF FERTILIZER FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

REGION	TOTAL	DAP	QUANTITY('000 QUINTAL)	
			UREA	DAP + UREA
TIGRAY	-	-	-	-
AFAR	-	-	-	-
AMHARA	1.12	0.87	0.25	-
OROMIA	38.71	34.61	4.10	-
BENSHANGULGUMEZ	-	-	-	-
S.N.N.P.R	60.60	55.32	5.28	0.00
GAMBELA	-	-	-	-
HARARI	-	-	-	-
ADDIS ABABA	-	-	-	-
DIRE DAWA	-	-	-	-
TOTAL	100.43	90.80	9.63	0.00

TABLE 5.2

ESTIMATES OF QUANTITY OF COMMERCIAL FERTILIZER APPLIED
BY TYPE OF FERTILIZER FOR BELG SEASON CROPS OF
PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

AMHARA

CROP	QUANTITY('000 QUINTAL)			
	TOTAL	DAP	UREA	DAP +UREA
CEREALS	1.09	0.84	0.25	--
TEFF	0.14	0.14	--	--
BARLEY	0.95	0.69	0.25	--
WHEAT	--	--	--	--
MAIZE	--	--	--	--
SORGHUM	--	--	--	--
MILLET	--	--	--	--
OATS	--	--	--	--
PULSES	--	--	--	--
HORSE BEANS	--	--	--	--
CHICK PEAS	--	--	--	--
HARICOT BEANS	--	--	--	--
FIELD PEAS	--	--	--	--
LENTILS	--	--	--	--
VETCH	--	--	--	--
OTHERS	0.03	0.03	--	--
NEUG	--	--	--	--
LINSEED	--	--	--	--
FENUGREEK	0.03	0.03	--	--
RAPESEED	--	--	--	--
TOTAL	1.12	0.87	0.25	--

TABLE 5.2.1

ESTIMATES OF QUANTITY OF COMMERCIAL FERTILIZER APPLIED
BY TYPE OF FERTILIZER FOR BELG SEASON CROPS OF PRIVATE
HOLDINGS IN AMHARA REGION BY ZONE,
1993/94(1986 E.C.)

ZONE	QUANTITY('000 QUINTAL)			
	TOTAL	DAP	UREA	DAP +UREA
AGEWAWI	--	--	--	--
EAST GOJAM	--	--	--	--
WEST GOJAM	--	--	--	--
NORTH GONDER	0.95	0.69	0.25	--
SOUTH GONDER	--	--	--	--
NORTH SHOA	--	--	--	--
OROMIA	--	--	--	--
WAG-HAMRA	--	--	--	--
NORTH WOLLO	--	--	--	--
SOUTH WOLLO	0.17	0.17	--	--
TOTAL	1.12	0.87	0.25	--

TABLE 5.3

ESTIMATES OF QUANTITY OF COMMERCIAL FERTILIZER APPLIED
BY TYPE OF FERTILIZER FOR BELG SEASON CROPS OF
PRIVATE HOLDINGS IN 1993/94(1986 E.C.)
OROMIA

CROP	QUANTITY('000 QUINTAL)			
	TOTAL	DAP	UREA	DAP +UREA
CEREALS	38.30	34.20	4.10	-
TEFF	8.63	8.58	0.05	-
BARLEY	14.04	10.57	3.47	-
WHEAT	1.25	1.04	0.21	-
MAIZE	10.44	10.35	0.09	-
SORGHUM	0.35	0.35	-	-
MILLET	-	-	-	-
OATS	3.58	3.31	0.28	-
PULSES	0.41	0.41	-	-
HORSE BEANS	-	-	-	-
CHICK PEAS	-	-	-	-
HARICOT BEANS	0.11	0.11	-	-
FIELD PEAS	0.30	0.30	-	-
LENTILS	-	-	-	-
VETCH	-	-	-	-
TOTAL	38.71	34.61	4.10	-

TABLE 5.3.1

ESTIMATES OF QUANTITY OF COMMERCIAL FERTILIZER APPLIED
BY TYPE OF FERTILIZER FOR BELG SEASON CROPS OF PRIVATE
HOLDINGS IN OROMIA REGION BY ZONE,
1993/94(1986 E.C.)

ZONE	QUANTITY('000 QUINTAL)			
	TOTAL	DAP	UREA	DAP +UREA
ARSI	9.47	7.89	1.58	-
BALE	10.19	7.98	2.21	-
BORENA	-	-	-	-
EAST HARARGHE	-	-	-	-
WEST HARARGHE	-	-	-	-
ILLUBABOR	-	-	-	-
JIMA	17.39	17.39	-	-
EAST SHOA	0.76	0.71	0.05	-
NORTH SHOA	-	-	-	-
WEST SHOA	0.18	0.00	0.18	-
EAST WELLEGA	-	-	-	-
WEST WELLEGA	0.72	0.64	0.08	-
TOTAL	38.71	34.61	4.10	-

TABLE 5.4 ESTIMATES OF QUANTITY OF COMMERCIAL FERTILIZER APPLIED BY TYPE OF FERTILIZER FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)
S.N.N.P.R

CROP	QUANTITY('000 QUINTAL)			
	TOTAL	DAP	UREA	DAP +UREA
CEREALS	51.60	46.35	5.25	0.00
TEFF	1.21	0.56	0.66	-
BARLEY	2.42	2.19	0.23	0.00
WHEAT	1.14	0.48	0.66	-
MAIZE	46.84	43.13	3.71	0.00
SORGHUM	-	-	-	-
MILLET	-	-	-	-
OATS	-	-	-	-
PULSES	8.68	8.97	0.03	0.00
HORSE BEANS	-	-	-	-
CHICK PEAS	-	-	-	-
HARICOT BEANS	9.00	8.97	0.03	0.00
FIELD PEAS	-	-	-	-
LENTILS	-	-	-	-
VETCH	-	-	-	-
TOTAL	60.60	55.32	5.28	0.00

TABLE 5.4.1 ESTIMATES OF QUANTITY OF COMMERCIAL FERTILIZER APPLIED BY TYPE OF FERTILIZER FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN S.N.N.P.R BY ZONE.
1993/94(1986 E.C.)

ZONE	QUANTITY('000 QUINTAL)			
	TOTAL	DAP	UREA	DAP +UREA
BENCH	-	-	-	-
GEDIO	-	-	-	-
GURAGHE	-	-	-	-
HADIYA	2.08	2.03	0.05	-
KEMBATA	2.12	2.12	-	-
KEFICHO	-	-	-	-
MAJI	-	-	-	-
NORTH OMO	43.00	40.09	2.92	0.00
SOUTH OMO	-	-	-	-
SHEKICHO	-	-	-	-
SIDAMA	13.40	11.09	2.31	-
AMARO WEREDA	-	-	-	-
BURJI WEREDA	-	-	-	-
GARDULA WEREDA	-	-	-	-
KONSO WEREDA	-	-	-	-
YEM WEREDA	-	-	-	-
TOTAL	60.60	55.32	5.28	0.00

1994/95 (1987 E.C.) BELG SEASON RESULTS

TABLE 6. ESTIMATES OF QUANTITY OF COMMERCIAL FERTILIZER APPLIED BY TYPE OF FERTILIZER FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95 (1987 E.C)

ETHIOPIA

CROP	QUANTITY ('000 QUINTAL)			
	TOTAL	DAP	UREA	DAP +UREA
CEREALS	61.58	56.24	6.31	0.04
TEFF	1.01	0.51	0.50	-
BARLEY	23.34	21.80	1.54	-
WHEAT	2.59	2.59	-	-
MAIZE	32.67	29.48	4.16	0.04
SORGHUM	0.31	0.31	-	-
MILLET	0.53	0.53	-	-
OATS	1.13	1.02	0.11	-
PULSES	4.65	3.70	0.95	-
HORSE BEANS	-	-	-	-
CHICK PEAS	0.13	0.13	-	-
HARICOT BEANS	3.17	2.29	0.88	-
FIELD PEAS	1.35	1.28	0.07	-
LENTILS	-	-	-	-
VETCH	-	-	-	-
OTHERS	0.06	0.06	-	-
NEUG	-	-	-	-
LINSEED	0.06	0.06	-	-
FENUGREEK	-	-	-	-
RAPESEED	-	-	-	-
TOTAL	67.30	60.00	7.26	0.04

TABLE 6.1 ESTIMATES OF QUANTITY OF COMMERCIAL FERTILIZER APPLIED BY REGION AND TYPE OF FERTILIZER FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95 (1987 E.C.)

REGION	QUANTITY ('000 QUINTAL)			
	TOTAL	DAP	UREA	DAP +UREA
TIGRAY	-	-	-	-
AFAR	-	-	-	-
AMHARA	2.10	2.10	-	-
OROMIA	31.36	28.43	2.93	-
BENSHANGULGUMEZ	-	-	-	-
S.N.N.P.R	33.60	29.37	4.19	0.04
GAMBELA	-	-	-	-
HARARI	0.14	-	0.14	-
ADDIS ABABA	-	-	-	-
DIRE DAWA	0.10	0.10	-	-
TOTAL	67.30	60.00	7.26	0.04

TABLE 6.2

ESTIMATES OF QUANTITY OF COMMERCIAL FERTILIZER APPLIED
BY TYPE OF FERTILIZER FOR BELG SEASON CROPS OF
PRIVATE HOLDINGS IN 1994/95 (1987 E.C.)

AMHARA

CROP	QUANTITY('000 QUINTAL)			
	TOTAL	DAP	UREA	DAP +UREA
CEREALS	1.97	1.97	-	-
TEFF	0.18	0.18	-	-
BARLEY	0.95	0.95	-	-
WHEAT	0.09	0.09	-	-
MAIZE	0.75	0.75	-	-
SORGHUM	-	-	-	-
MILLET	-	-	-	-
OATS	-	-	-	-
PULSES	0.13	0.13	-	-
HORSE BEANS	-	-	-	-
CHICK PEAS	0.13	0.13	-	-
HARICOT BEANS	-	-	-	-
FIELD PEAS	-	-	-	-
LENTILS	-	-	-	-
VETCH	-	-	-	-
TOTAL	2.10	2.10	-	-

TABLE 6.2.1 ESTIMATES OF QUANTITY OF COMMERCIAL FERTILIZER APPLIED BY
TYPE OF FERTILIZER FOR BELG SEASON CROPS OF PRIVATE
HOLDINGS IN AMHARA REGION BY ZONE, 1994/95(1987 E.C.)

ZONE	QUANTITY('000 QUINTAL)			
	TOTAL	DAP	UREA	DAP +UREA
AGEWAWI	0.75	0.75	-	-
EAST GOJAM	-	-	-	-
WEST GOJAM	-	-	-	-
NORTH GONDER	-	-	-	-
SOUTH GONDER	-	-	-	-
NORTH SHOA	1.12	1.12	-	-
OROMIA	-	-	-	-
WAG-HAMRA	-	-	-	-
NORTH WOLLO	0.05	0.05	-	-
SOUTH WOLLO	0.18	0.18	-	-
TOTAL	2.10	2.10	-	-

TABLE 6.3 ESTIMATES OF QUANTITY OF COMMERCIAL FERTILIZER APPLIED BY TYPE OF FERTILIZER FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C)

OROMIA

QUANTITY('000 QUINTAL)

CROP	TOTAL	DAP	UREA	DAP +UREA
CEREALS	29.30	26.43	2.87	-
TEFF	0.56	0.17	0.39	-
BARLEY	21.07	19.99	1.08	-
WHEAT	2.50	2.50	-	-
MAIZE	4.04	2.75	1.29	-
SORGHUM	-	-	-	-
MILLET	-	-	-	-
OATS	1.13	1.02	0.11	-
PULSES	2.00	1.94	0.06	-
HORSE BEANS	-	-	-	-
CHICK PEAS	-	-	-	-
HARICOT BEANS	0.66	0.66	-	-
FIELD PEAS	1.34	1.28	0.06	-
LENTILS	-	-	-	-
VETCH	-	-	-	-
OTHERS	0.06	0.06	-	-
NEUG	-	-	-	-
LINSEED	0.06	0.06	-	-
FENUGREEK	-	-	-	-
RAPESEED	-	-	-	-
TOTAL	31.36	28.43	2.93	-

TABLE 6.3.1 ESTIMATES OF QUANTITY OF COMMERCIAL FERTILIZER APPLIED BY TYPE OF FERTILIZER FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN OROMIA REGION BY ZONE, 1994/95(1987 E.C.)

QUANTITY('000 QUINTAL)

ZONE	TOTAL	DAP	UREA	DAP +UREA
ARSI	22.99	22.11	0.88	-
BALE	6.74	5.48	1.26	-
BORENA	-	-	-	-
EAST HARARGHE	0.40	0.00	0.40	-
WEST HARARGHE	-	-	-	-
ILLUBABOR	-	-	-	-
JIMA	-	-	-	-
EAST SHOA	1.09	0.70	0.39	-
NORTH SHOA	-	-	-	-
WEST SHOA	0.08	0.08	-	-
EAST WELLEGA	-	-	-	-
WEST WELLEGA	0.06	0.06	-	-
TOTAL	31.36	28.43	2.93	-

TABLE 6.4

ESTIMATES OF QUANTITY OF COMMERCIAL FERTILIZER APPLIED
BY TYPE OF FERTILIZER FOR BELG SEASON CROPS OF
PRIVATE HOLDINGS IN 1994/95(1987 E.C)

S.N.N.P.R

CROP	QUANTITY('000 QUINTAL)			
	TOTAL	DAP	UREA	DAP +UREA
CEREALS	31.22	27.74	3.44	0.04
TEFF	0.27	0.16	0.11	-
BARLEY	1.32	0.86	0.46	-
WHEAT	-	-	-	-
MAIZE	28.79	25.88	2.87	0.04
SORGHUM	0.31	0.31	-	-
MILLET	0.53	0.53	-	-
OATS	-	-	-	-
PULSES	2.38	1.63	0.75	-
HORSE BEANS	-	-	-	-
CHICK PEAS	-	-	-	-
HARICOT BEANS	2.37	1.63	0.74	-
FIELD PEAS	0.01	-	0.01	-
LENTILS	-	-	-	-
VETCH	-	-	-	-
TOTAL	33.60	29.37	4.19	0.04

TABLE 6.4.1

ESTIMATES OF QUANTITY OF COMMERCIAL FERTILIZER APPLIED BY
TYPE OF FERTILIZER FOR BELG SEASON CROPS OF PRIVATE
HOLDINGS IN S.N.N.P.R BY ZONE, 1994/95(1987 E.C.)

ZONE	QUANTITY('000 QUINTAL)			
	TOTAL	DAP	UREA	DAP +UREA
BENCH	-	-	-	-
GEDIO	-	-	-	-
GURAGHE	-	-	-	-
HADIYA	1.22	1.22	-	-
KEMBATA	1.05	1.05	-	-
KEFICHO	-	-	-	-
MAJI	-	-	-	-
NORTH OMO	21.97	19.53	2.40	0.04
SOUTH OMO	-	-	-	-
SHEKICHO	-	-	-	-
SIDAMA	9.36	7.57	1.79	-
AMARO WEREDA	-	-	-	-
BURJI WEREDA	-	-	-	-
GARDULA WEREDA	-	-	-	-
KONSO WEREDA	-	-	-	-
YEM WEREDA	-	-	-	-
TOTAL	33.60	29.37	4.19	0.04

TABLE 6.5 ESTIMATES OF QUANTITY OF COMMERCIAL FERTILIZER APPLIED BY TYPE OF FERTILIZER FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C)

HARARI

QUANTITY('000 QUINTAL)

CROP	TOTAL	DAP	UREA	DAP +UREA
PULSES	0.14	-	0.14	-
HORSE BEANS	-	-	-	-
CHICK PEAS	-	-	-	-
HARICOT BEANS	0.14	-	0.14	-
FIELD PEAS	-	-	-	-
LENTILS	-	-	-	-
VETCH	-	-	-	-
TOTAL	0.14	-	0.14	-

TABLE 6.6 ESTIMATES OF QUANTITY OF COMMERCIAL FERTILIZER APPLIED BY TYPE OF FERTILIZER FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C)

DIRE DAWA

QUANTITY('000 QUINTAL)

CROP	TOTAL	DAP	UREA	DAP +UREA
CEREALS	0.10	0.10	-	-
TEFF	-	-	-	-
BARLEY	-	-	-	-
WHEAT	-	-	-	-
MAIZE	0.10	0.10	-	-
SORGHUM	-	-	-	-
MILLET	-	-	-	-
OATS	-	-	-	-
TOTAL	0.10	0.10	-	-

SECTION-2. ESTIMATES OF TOTAL AREA AND DISTRIBUTION OF AREA UNDER DIFFERENT FARM MANAGEMENT PRACTICES BY AREA SIZE GROUPS FOR BELG SEASON CROPS.

For the purpose of a systematic presentation of this report, total belg crop area have been classified in to seven 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 hectare
- Group 5 - 2.01 - 5.00 hectare
- Group 6 - 5.01 - 10.00 hectare
- Group 7 - 10.01 and above hectares

2.1 TOTAL AREA UNDER BELG SEASON CROPS BY AREA SIZE GROUPS.

According to the survey results, it was estimated that a total of 637.76 and 750.00 thousand hectares were under belg season major crops in 1993/94(1986 E.C.) and 1994/95(1987 E.C.) respectively. By these groupings, as presented in Table G the highest belg crop area 61.55% fall in area size group 2 for 1993/94 (1986 E.C.) which followed by group 3 19.43% and group 1 7.12%.

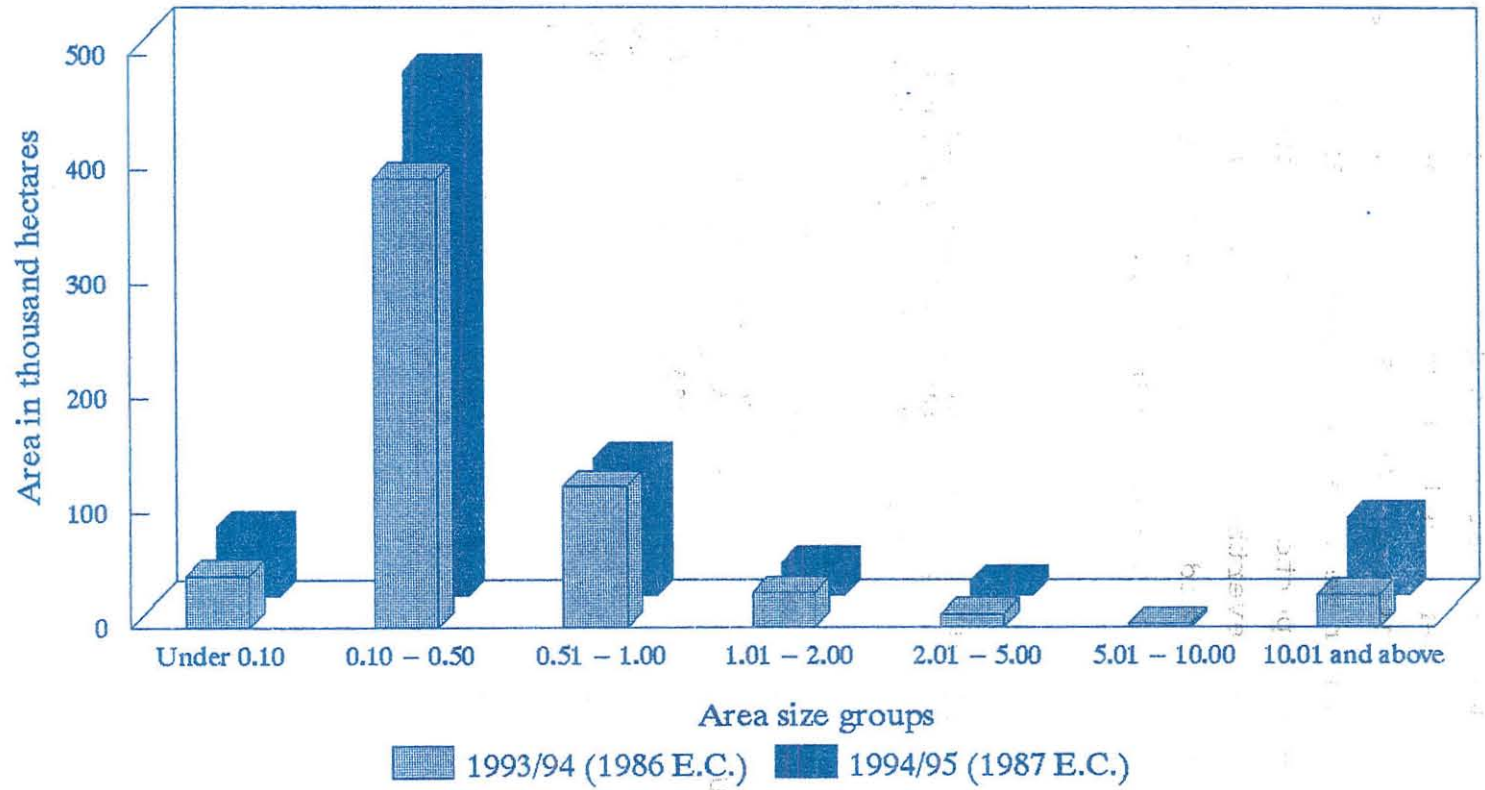
Similarly, in 1994/95 (1987 E.C.), of the total area under belg season crops, the highest belg crop area 61.19% fall in area size group 2 followed by group 3 16.07% and group 1 8.10%.

Comparison was also made for area size classified into groups in the two mentioned years and presented in same table. Accordingly in 1994/95 (1987 E.C.), increases were observed in the total area under belg season crops by 135.09%, 33.77%, 16.91%, and 1.79% were reported in area size group 7, 1, 2, and 5, respectively. Nevertheless, in the same year decreases of 5.75% and 2.71% were reported for group 4 and 3, respectively (for details see Summary Table G and Figure 4).

SUMMARY TABLE G. THE DISTRIBUTION OF TOTAL AREA UNDER BELG SEASON CROPS AND THEIR PERCENT CHANGE BY AREA SIZE GROUPS FOR PRIVATE HOLDINGS IN ETHIOPIA, 1993/94(1986 E.C.) AND 1994/95 (1987 E.C.)

AREA SIZE GROUPS (HECTARES)	AREA('000 HECTARES)				
	TOTAL AREA UNDER BELG SEASON CROPS				
	1993/94 (1986 E.C.)	%	1994/95 (1987 E.C.)	%	% CHANGE
UNDER 0.10	45.42	7.12	60.76	8.10	33.77
0.10 -0.50	392.54	61.55	458.93	61.19	16.91
0.51-1.00	123.90	19.43	120.54	16.07	-2.71
1.01-2.00	30.76	4.82	28.99	3.87	-5.75
2.01-5.00	12.29	1.93	12.51	1.67	1.79
5.01-10.00	3.81	0.60	-	-	-
10.01 AND ABOVE	29.04	4.55	68.27	9.10	135.09
TOTAL	637.76	100.00	750.00	100.00	17.60

Figure 4. Estimates of total area under belg season crops by area size groups for private holdings in Ethiopia, 1993/94(1986 E.C.) & 1994/95 (1987 E.C.)



1993/94 (1986 E.C.) BELG SEASON RESULTS

TABLE 7. ESTIMATES OF AREA BY SIZE OF HOLDING FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

ETHIOPIA

CROP	AREA('000 HECTARES)							TOTAL
	SIZE OF HOLDING IN HECTARES							
	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	40.26	373.82	121.73	30.35	7.89	3.81	29.04	606.90
TEFF	2.24	25.80	8.44	4.31	-	-	-	40.79
BARLEY	14.16	143.94	27.92	3.96	2.48	-	-	192.46
WHEAT	0.85	17.48	6.49	1.95	-	-	-	26.77
MAIZE	19.79	161.14	68.94	17.33	5.17	3.81	29.04	305.22
SORGHUM	1.53	18.47	8.47	2.80	-	-	-	31.27
MILLET	0.18	0.80	0.07	-	0.24	-	-	1.29
OATS	1.51	6.19	1.40	-	-	-	-	9.10
PULSES	4.91	17.91	1.73	-	4.40	-	-	28.95
HORSE BEANS	0.21	2.41	-	-	-	-	-	2.62
CHICK PEAS	0.11	1.29	0.34	-	-	-	-	1.74
HARICOT BEANS	3.52	9.96	1.39	-	4.40	-	-	19.27
FIELD PEAS	0.76	3.63	-	-	-	-	-	4.39
LENTILS	0.27	0.46	-	-	-	-	-	0.73
VETCH	0.04	0.16	-	-	-	-	-	0.20
OTHERS	0.25	0.81	0.44	0.41	-	-	-	1.91
NEUG	-	-	-	-	-	-	-	-
LINSEED	0.25	0.61	0.44	0.41	-	-	-	1.71
FENUGREEK	-	0.20	-	-	-	-	-	0.20
RAPSEED	-	-	-	-	-	-	-	-
TOTAL	45.42	392.54	123.90	30.76	12.29	3.81	29.04	637.76

TABLE 7.1 ESTIMATES OF AREA BY SIZE OF HOLDING AND REGION FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

REGION	AREA('000 HECTARES)							TOTAL
	SIZE OF HOLDING IN HECTARES							
	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	0.54	3.09	3.05	-	-	-	-	6.68
AFAR	-	-	-	-	-	-	-	-
AMHARA	10.36	77.21	12.34	4.77	1.02	-	-	105.70
ROMIA	14.06	196.56	65.61	18.46	2.40	3.81	24.54	325.44
BENSHANGULGUMEZ	-	-	-	-	-	-	-	-
S.N.N.P.R	20.42	114.81	42.75	7.53	8.63	-	4.50	198.64
GAMBELA	-	0.67	0.15	-	0.24	-	-	1.06
HARARI	-	-	-	-	-	-	-	-
ADDIS ABABA	-	-	-	-	-	-	-	-
DIRE DAWA	0.04	0.20	-	-	-	-	-	0.24
TOTAL	45.44	392.53	123.90	30.76	12.29	3.81	29.04	637.77

TABLE 7.2 ESTIMATES OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

TIGRAY

CROP	AREA('000 HECTARES)							TOTAL
	SIZE OF HOLDING IN HECTARES							
	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	0.54	3.09	3.05	-	-	-	-	6.68
TEFF	-	-	0.50	-	-	-	-	0.50
BARLEY	0.12	1.48	1.75	-	-	-	-	3.35
WHEAT	-	-	-	-	-	-	-	-
MAIZE	0.07	1.61	0.80	-	-	-	-	2.48
SORGHUM	0.35	-	-	-	-	-	-	0.35
MILLET	-	-	-	-	-	-	-	-
OATS	-	-	-	-	-	-	-	-
TOTAL	0.54	3.09	3.05	-	-	-	-	6.68

TABLE 7.3 ESTIMATES OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

AMHARA

CROP	AREA('000 HECTARES)							TOTAL
	SIZE OF HOLDING IN HECTARES							
	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	9.67	74.47	12.26	4.77	1.02	-	-	102.19
TEFF	0.51	5.02	1.27	2.34	-	-	-	9.14
BARLEY	7.05	57.59	10.04	2.43	1.02	-	-	78.13
WHEAT	0.61	3.98	-	-	-	-	-	4.59
MAIZE	0.78	5.15	0.11	-	-	-	-	6.04
SORGHUM	0.03	1.08	0.38	-	-	-	-	1.49
MILLET	0.01	0.39	-	-	-	-	-	0.40
OATS	0.68	1.26	0.46	-	-	-	-	2.40
PULSES	0.65	2.73	0.08	-	-	-	-	3.46
HORSE BEANS	-	-	-	-	-	-	-	-
CHICK PEAS	0.11	1.19	0.08	-	-	-	-	1.38
HARICOT BEANS	-	-	-	-	-	-	-	-
FIELD PEAS	0.47	1.37	-	-	-	-	-	1.84
LENTILS	0.03	0.07	-	-	-	-	-	0.10
VETCH	0.04	0.10	-	-	-	-	-	0.14
OTHERS	0.04	0.01	-	-	-	-	-	0.05
NEUG	-	-	-	-	-	-	-	-
LINSEED	0.04	-	-	-	-	-	-	0.04
FENUGREEK	-	0.01	-	-	-	-	-	0.01
RAPESEED	-	-	-	-	-	-	-	-
TOTAL	10.36	77.21	12.34	4.77	1.02	-	-	105.70

TABLE 7.3.1 ESTIMATES OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN AMHARA REGION BY
ZONE, 1993/94(1986 E.C.)

ZONE	AREA('000 HECTARES)							TOTAL
	SIZE OF HOLDING IN HECTARES							
	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	
AGEWAWI	0.20	0.31	-	-	-	-	-	0.51
EAST GOJAM	-	-	-	-	-	-	-	-
WEST GOJAM	0.36	2.83	-	-	-	-	-	3.19
NORTH GONDER	-	3.03	1.57	-	-	-	-	4.60
SOUTH GONDER	0.18	3.51	0.25	-	-	-	-	3.94
NORTH SHOA	1.36	12.58	3.35	0.71	-	-	-	18.00
OROMIA	0.56	2.98	1.59	2.34	1.02	-	-	8.49
WAG-HAMRA	-	-	-	-	-	-	-	-
NORTH WOLLO	1.22	15.70	2.43	1.72	-	-	-	21.07
SOUTH WOLLO	6.48	36.27	3.15	-	-	-	-	45.90
TOTAL	10.36	77.21	12.34	4.77	1.02	-	-	105.70

TABLE 7.4 ESTIMATES OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

OROMIA

CROP	AREA('000 HECTARES)							TOTAL
	SIZE OF HOLDING IN HECTARES							
	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	11.72	187.70	63.90	18.05	2.40	3.81	24.54	312.12
TEFF	0.42	13.32	6.22	1.76	-	-	-	21.72
BARLEY	4.31	76.81	15.26	1.53	1.46	-	-	99.37
WHEAT	0.23	13.49	6.49	1.95	-	-	-	22.16
MAIZE	5.80	69.58	29.73	11.27	0.94	3.81	24.54	145.67
SORGHUM	0.14	9.57	5.26	1.54	-	-	-	16.51
MILLET	-	-	-	-	-	-	-	-
OATS	0.82	4.93	0.94	-	-	-	-	6.69
PULSES	2.13	8.06	1.27	-	-	-	-	11.46
HORSE BEANS	0.15	0.48	-	-	-	-	-	0.63
CHICK PEAS	-	0.10	0.26	-	-	-	-	0.36
HARICOT BEANS	1.51	5.02	1.01	-	-	-	-	7.54
FIELD PEAS	0.23	2.07	-	-	-	-	-	2.30
LENTILS	0.24	0.39	-	-	-	-	-	0.63
VEICH	-	-	-	-	-	-	-	-
OTHERS	0.21	0.80	0.44	0.41	-	-	-	1.86
NEUG	-	-	-	-	-	-	-	-
LINSEED	0.21	0.61	0.44	0.41	-	-	-	1.67
FENUGREEK	-	0.19	-	-	-	-	-	0.19
RAPESEED	-	-	-	-	-	-	-	-
TOTAL	14.06	196.56	65.61	18.46	2.40	3.81	24.54	325.44

TABLE 7.4.1 ESTIMATES OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN OROMIA REGION BY
ZONE, 1993/94(1986 E.C.)

ZONE	AREA('000 HECTARES)							TOTAL
	SIZE OF HOLDING IN HECTARES							
	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	
ARSI	1.53	27.05	2.35	-	-	-	-	30.93
BALE	0.57	39.47	20.99	6.11	-	-	-	67.14
BORENA	0.16	21.78	19.01	5.84	0.94	-	-	47.73
EAST HARARGHE	1.72	15.80	1.84	0.90	-	-	-	20.26
WEST HARARGHE	2.30	8.38	4.12	0.38	-	-	3.97	19.15
ILLUBABOR	0.23	8.08	3.03	0.62	-	-	-	11.96
JIMA	2.82	26.19	3.12	1.13	-	-	20.57	53.83
EAST SHOA	0.46	1.11	-	-	-	-	-	1.57
NORTH SHOA	1.11	13.63	1.57	-	-	-	-	16.31
WEST SHOA	1.00	13.13	5.29	0.90	1.46	-	-	21.78
EAST WELLEGA	1.12	6.91	0.93	0.41	-	3.81	-	13.18
WEST WELLEGA	1.04	15.03	3.36	2.17	-	-	-	21.60
TOTAL	14.06	196.56	65.61	18.46	2.40	3.81	24.54	325.44

TABLE 7.5 ESTIMATES OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

S.N.N.P.R

CROP	AREA('000 HECTARES)							TOTAL
	SIZE OF HOLDING IN HECTARES							
	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	18.29	107.69	42.37	7.53	4.23	-	4.50	184.61
TEFF	1.31	7.46	0.45	0.21	-	-	-	9.43
BARLEY	2.68	8.06	0.87	-	-	-	-	11.61
WHEAT	0.01	0.01	-	-	-	-	-	0.02
MAIZE	13.10	84.30	38.22	6.06	4.23	-	4.50	150.41
SORGHUM	1.01	7.52	2.83	1.26	-	-	-	12.62
MILLET	0.17	0.34	-	-	-	-	-	0.51
OATS	0.01	-	-	-	-	-	-	0.01
PULSES	2.13	7.12	0.38	-	4.40	-	-	14.03
HORSE BEANS	0.06	1.93	-	-	-	-	-	1.99
CHICK PEAS	-	-	-	-	-	-	-	-
HARICOT BEANS	2.01	4.94	0.38	-	4.40	-	-	11.73
FIELD PEAS	0.06	0.19	-	-	-	-	-	0.25
LENTILS	-	-	-	-	-	-	-	-
VEICH	-	0.06	-	-	-	-	-	0.06
TOTAL	20.42	114.81	42.75	7.53	8.63	-	4.50	198.64

TABLE 7.5.1 ESTIMATES OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN S.N.N.P.R BY
ZONE, 1993/94(1986 E.C.)

ZONE	AREA('000 HECTARES)							TOTAL
	SIZE OF HOLDING IN HECTARES							
	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	
BENCH	0.41	7.32	0.43	-	-	-	-	8.16
GEDIO	0.31	0.42	-	-	-	-	-	0.73
GURAGHE	-	-	-	-	-	-	-	-
HADIYA	0.64	2.61	-	-	-	-	-	3.25
KEMBATA	0.17	2.63	-	-	-	-	-	2.80
KEFICHO	4.23	13.46	1.26	-	-	-	-	18.95
MAJI	0.30	0.99	0.14	0.10	0.15	-	-	1.68
NORTH OMO	9.00	68.69	36.48	6.44	8.48	-	4.50	133.59
SOUTH OMO	0.97	6.66	1.22	-	-	-	-	8.85
SHEKICHO	0.55	2.26	0.66	-	-	-	-	3.47
SIDAMA	3.16	4.68	0.47	-	-	-	-	8.31
AMARO WEREDA	-	-	-	-	-	-	-	-
BURJI WEREDA	-	-	-	-	-	-	-	-
GARDULA WEREDA	-	3.13	0.34	-	-	-	-	3.47
KONSO WEREDA	0.54	1.70	1.75	0.99	-	-	-	4.98
YEM WEREDA	0.14	0.26	-	-	-	-	-	0.40
TOTAL	20.42	114.81	42.75	7.53	8.63	-	4.50	198.64

TABLE 7.6 ESTIMATES OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

GAMBELA

CROP	AREA('000 HECTARES)							TOTAL
	SIZE OF HOLDING IN HECTARES							
	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	-	0.67	0.15	-	0.24	-	-	1.06
TEFF	-	-	-	-	-	-	-	-
BARLEY	-	-	-	-	-	-	-	-
WHEAT	-	-	-	-	-	-	-	-
MAIZE	-	0.30	0.08	-	-	-	-	0.38
SORGHUM	-	0.30	-	-	-	-	-	0.30
MILLET	-	0.07	0.07	-	0.24	-	-	0.38
OATS	-	-	-	-	-	-	-	-
TOTAL	-	0.67	0.15	-	0.24	-	-	1.06

TABLE 7.7 ESTIMATES OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

DIRE DAWA

CROP	AREA('000 HECTARES)							TOTAL
	SIZE OF HOLDING IN HECTARES							
	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	0.04	0.20	-	-	-	-	-	0.24
TEFF	-	-	-	-	-	-	-	-
BARLEY	-	-	-	-	-	-	-	-
WHEAT	-	-	-	-	-	-	-	-
MAIZE	0.04	0.20	-	-	-	-	-	0.24
SORGHUM	-	-	-	-	-	-	-	-
MILLET	-	-	-	-	-	-	-	-
OATS	-	-	-	-	-	-	-	-
TOTAL	0.04	0.20	-	-	-	-	-	0.24

1994/95 (1987 E.C.) BELG SEASON RESULTS

TABLE 8. ESTIMATES OF AREA BY SIZE OF HOLDING FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C.)

ETHIOPIA

CROP	AREA('000 HECTARES)							TOTAL
	SIZE OF HOLDING IN HECTARES							
	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	51.60	427.41	114.95	28.99	11.34	-	68.27	702.56
TEFF	4.48	38.99	6.09	5.67	-	-	-	55.23
BARLEY	14.60	141.28	32.90	6.11	1.17	-	60.81	256.87
WHEAT	4.21	19.93	6.57	1.04	-	-	-	31.75
MAIZE	26.00	196.42	63.41	14.21	6.10	-	7.46	313.60
SORGHUM	0.86	20.83	4.55	1.72	4.07	-	-	32.03
MILLET	0.12	1.46	0.28	-	-	-	-	1.86
OATS	1.33	8.50	1.15	0.24	-	-	-	11.22
PULSES	6.65	28.30	4.97	-	1.17	-	-	41.09
HORSE BEANS	0.39	0.26	-	-	-	-	-	0.65
CHICK PEAS	0.61	3.23	-	-	-	-	-	3.84
HARICOT BEANS	3.67	13.05	1.72	-	1.17	-	-	19.61
FIELD PEAS	1.34	6.14	0.11	-	-	-	-	7.59
LENTILS	0.61	3.25	-	-	-	-	-	3.86
VEICH	0.03	2.37	3.14	-	-	-	-	5.54
OTHERS	2.51	3.22	0.62	-	-	-	-	6.35
NEUG	-	-	-	-	-	-	-	-
LINSEED	1.04	3.22	0.16	-	-	-	-	4.42
FENUGREEK	1.47	-	0.46	-	-	-	-	1.93
RAPESEED	-	-	-	-	-	-	-	-
TOTAL	60.76	458.93	120.54	28.99	12.51	-	68.27	750.00

TABLE 8.1 ESTIMATES OF AREA BY SIZE OF HOLDING AND REGION FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C.)

REGION	AREA('000 HECTARES)							TOTAL
	SIZE OF HOLDING IN HECTARES							
	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	0.23	28.28	-	-	-	-	-	28.51
AFAR	-	-	-	-	-	-	-	-
AMHARA	19.51	93.95	19.21	8.09	-	-	-	140.76
OROMIA	21.64	203.41	52.85	11.49	10.26	-	7.76	307.41
BENSHANGUL GUMEZ	-	-	-	-	-	-	-	-
S.N.N.P.R	19.28	131.99	48.11	9.27	2.25	-	60.51	271.41
GAMBELA	-	1.06	0.37	0.14	-	-	-	1.57
HARARI	0.06	0.09	-	-	-	-	-	0.15
ADDIS ABABA	-	-	-	-	-	-	-	-
DIRE DAWA	0.04	0.15	-	-	-	-	-	0.19
TOTAL	60.77	458.93	120.54	28.99	12.51	-	68.27	750.00

TABLE 8.2 ESTIMATES OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C.)

TIGRAY

CROP	AREA('000 HECTARES)							TOTAL
	SIZE OF HOLDING IN HECTARES							
	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	0.23	28.28	-	-	-	-	-	28.51
TEFF	0.23	18.13	-	-	-	-	-	18.36
BARLEY	-	5.53	-	-	-	-	-	5.53
WHEAT	-	-	-	-	-	-	-	-
MAIZE	-	4.02	-	-	-	-	-	4.02
SORGHUM	-	0.60	-	-	-	-	-	0.60
MILLET	-	-	-	-	-	-	-	-
OATS	-	-	-	-	-	-	-	-
TOTAL	0.23	28.28	-	-	-	-	-	28.51

TABLE 8.3 ESTIMATES OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C.)

AMHARA

CROP	AREA('000 HECTARES)							TOTAL
	SIZE OF HOLDING IN HECTARES							
	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	14.27	87.13	19.21	8.09	-	-	-	128.70
TEFF	3.84	12.45	2.82	3.40	-	-	-	22.51
BARLEY	7.57	62.95	14.87	4.69	-	-	-	90.08
WHEAT	0.98	3.04	0.18	-	-	-	-	4.20
MAIZE	0.91	4.16	1.00	-	-	-	-	6.07
SORGHUM	0.15	3.11	0.32	-	-	-	-	3.58
MILLET	-	0.05	-	-	-	-	-	0.05
OATS	0.82	1.37	0.02	-	-	-	-	2.21
PULSES	2.74	5.32	-	-	-	-	-	8.06
HORSE BEANS	0.39	0.19	-	-	-	-	-	0.58
CHICK PEAS	0.61	3.23	-	-	-	-	-	3.84
HARICOT BEANS	0.06	-	-	-	-	-	-	0.06
FIELD PEAS	1.10	1.03	-	-	-	-	-	2.13
LENTILS	0.55	0.60	-	-	-	-	-	1.15
VETCH	0.03	0.27	-	-	-	-	-	0.30
OTHERS	2.50	1.50	-	-	-	-	-	4.00
NEUG	-	-	-	-	-	-	-	-
LINSEED	1.04	1.50	-	-	-	-	-	2.54
FENUGREEK	1.46	-	-	-	-	-	-	1.46
RAPESEED	-	-	-	-	-	-	-	-
TOTAL	19.51	93.95	19.21	8.09	-	-	-	140.76

TABLE 8.3.1 ESTIMATES OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN AMHARA REGION BY ZONE,
1994/95(1987 E.C.)

ZONE	SIZE OF HOLDING IN HECTARES							TOTAL
	AREA('000 HECTARES)	UNDER 0.10	0.10-0.50	0.51-1.00	1.01-2.00	2.01-5.00	5.01-10.00	
AGEWAWI	0.13	-	-	-	-	-	-	0.13
EAST GOJAM	-	-	-	-	-	-	-	-
WEST GOJAM	0.70	2.00	-	-	-	-	-	2.70
NORTH GONDER	-	3.12	4.48	-	-	-	-	7.60
SOUTH GONDER	0.14	3.70	2.71	-	-	-	-	6.55
NORTH SHOA	2.10	16.54	3.61	-	-	-	-	22.25
OROMIA	0.09	4.58	1.23	3.40	-	-	-	9.30
WAG-HAMRA	-	-	-	-	-	-	-	-
NORTH WOLLO	1.35	22.41	6.78	4.69	-	-	-	35.23
SOUTH WOLLO	15.00	41.60	0.40	-	-	-	-	57.00
TOTAL	19.51	93.95	19.21	8.09	-	-	-	140.76

TABLE 8.4 ESTIMATES OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C.)

OROMIA

CROP	SIZE OF HOLDING IN HECTARES							TOTAL
	AREA('000 HECTARES)	UNDER 0.10	0.10-0.50	0.51-1.00	1.01-2.00	2.01-5.00	5.01-10.00	
CEREALS	19.76	186.25	48.27	11.49	9.09	-	7.76	282.62
TEFF	0.14	6.57	2.57	2.27	-	-	-	11.55
BARLEY	4.52	63.40	12.98	1.42	1.17	-	0.30	83.79
WHEAT	3.23	15.79	6.39	1.04	-	-	-	26.45
MAIZE	11.26	85.81	22.66	5.62	4.40	-	7.46	137.21
SORGHUM	0.10	7.55	3.06	0.90	3.52	-	-	15.13
MILLET	-	-	-	-	-	-	-	-
OATS	0.51	7.13	0.61	0.24	-	-	-	8.49
PULSES	1.87	15.44	3.96	-	1.17	-	-	22.44
HORSE BEANS	-	0.07	-	-	-	-	-	0.07
CHICK PEAS	-	-	-	-	-	-	-	-
HARICOT BEANS	1.57	5.51	0.71	-	1.17	-	-	8.96
FIELD PEAS	0.24	5.11	0.11	-	-	-	-	5.46
LENTILS	0.06	2.65	-	-	-	-	-	2.71
VETCH	-	2.10	3.14	-	-	-	-	5.24
OTHERS	0.01	1.72	0.62	-	-	-	-	2.35
NEUG	-	-	-	-	-	-	-	-
LINSEED	-	1.72	0.16	-	-	-	-	1.88
FENUGREEK	0.01	-	0.46	-	-	-	-	0.47
RAPESEED	-	-	-	-	-	-	-	-
TOTAL	21.64	203.41	52.85	11.49	10.26	-	7.76	307.41

TABLE 8.4.1 ESTIMATES OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN OROMIA REGION BY ZONE,
1994/95(1987 E.C.)

ZONE	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	
ARSI	5.37	43.47	6.21	1.15	-	-	0.30	56.50
BALE	1.20	50.14	15.30	2.52	0.83	-	-	69.99
BORENA	0.61	17.32	23.52	7.45	8.42	-	-	57.32
EAST HARARGHE	2.85	26.44	0.58	-	-	-	7.46	37.33
WEST HARARGHE	4.96	12.30	1.35	-	-	-	-	18.61
ILLUBABOR	0.52	3.88	0.62	-	-	-	-	5.02
JIMA	0.97	13.72	1.21	-	-	-	-	15.90
EAST SHOA	0.66	2.22	-	-	-	-	-	2.88
NORTH SHOA	0.28	1.99	0.26	-	-	-	-	2.53
WEST SHOA	1.22	3.32	-	-	-	-	-	4.54
EAST WELLEGA	1.26	4.85	0.18	-	-	-	-	6.29
WEST WELLEGA	1.74	23.76	3.62	0.37	1.01	-	-	30.50
TOTAL	21.64	203.41	52.85	11.49	10.26	-	7.76	307.41

TABLE 8.5 ESTIMATES OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C.)

S.N.N.P.R

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	17.30	124.54	47.10	9.27	2.25	0.00	60.51	260.97
TEFF	0.27	1.84	0.70	-	-	-	-	0.00
BARLEY	2.51	9.40	5.05	-	-	-	60.51	2.81
WHEAT	-	1.10	-	-	-	-	-	77.47
MAIZE	13.79	101.84	39.46	8.45	1.70	-	-	1.10
SORGHUM	0.61	8.95	1.17	0.82	0.55	-	-	165.24
MILLET	0.12	1.41	0.20	-	-	-	-	12.10
OATS	-	-	0.52	-	-	-	-	1.73
PULSES	1.98	7.45	1.01	-	-	-	-	0.52
HORSE BEANS	-	-	-	-	-	-	-	10.44
CHICK PEAS	-	-	-	-	-	-	-	-
HARICOT BEANS	1.98	7.45	1.01	-	-	-	-	10.44
FIELD PEAS	-	-	-	-	-	-	-	-
LENTILS	-	-	-	-	-	-	-	-
VETCH	-	-	-	-	-	-	-	-
TOTAL	19.28	131.99	48.11	9.27	2.25	0.00	60.51	271.41

TABLE 8.5.1 ESTIMATES OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN S.N.N.P.R BY ZONE,
1994/95(1987 E.C.)

ZONE	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	
BENCH	0.35	2.89	3.57	0.35	-	-	-	7.16
GEDIO	0.30	0.11	-	-	-	-	-	0.41
GURAGHE	-	-	-	-	-	-	-	-
HADIYA	0.76	2.18	1.33	-	-	-	-	4.27
KEMBATA	0.60	0.79	-	-	-	-	-	1.39
KEFICHO	0.74	10.01	3.18	-	-	-	-	13.93
MAJI	0.43	1.44	0.49	-	-	-	-	2.36
NORTH OMO	12.05	90.82	32.47	7.35	1.70	-	60.51	204.90
SOUTH OMO	0.87	10.34	2.54	0.48	0.55	-	-	14.78
SHEKICHO	0.13	3.84	2.55	-	-	-	-	6.52
SIDAMA	2.24	6.29	-	-	-	-	-	8.53
AMARO WEREDA	-	-	-	-	-	-	-	-
BURJI WEREDA	-	-	-	-	-	-	-	-
GARDULA WEREI	-	-	-	-	-	-	-	-
KONSO WEREDA	0.59	3.28	1.98	1.09	-	-	-	6.94
YEM WEREDA	0.22	-	-	-	-	-	-	0.22
TOTAL	19.28	131.99	48.11	9.27	2.25	-	60.51	271.41

TABLE 8.6 ESTIMATES OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C.)

GAMBELA

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	-	1.06	0.37	0.14	-	-	-	1.57
TEFF	-	-	-	-	-	-	-	-
BARLEY	-	-	-	-	-	-	-	-
WHEAT	-	-	-	-	-	-	-	-
MAIZE	-	0.44	0.29	0.14	-	-	-	0.87
SORGHUM	-	0.62	-	-	-	-	-	0.62
MILLET	-	-	0.08	-	-	-	-	0.08
OATS	-	-	-	-	-	-	-	-
TOTAL	-	1.06	0.37	0.14	-	-	-	1.57

TABLE 8.7 ESTIMATES OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C.)

HARARI

CROP	AREA('000 HECTARES)							TOTAL
	SIZE OF HOLDING IN HECTARES							
	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	
PULSES	0.06	0.09	-	-	-	-	-	0.15
HORSE BEANS	-	-	-	-	-	-	-	-
CHICK PEAS	-	-	-	-	-	-	-	-
HARICOT BEANS	0.06	0.09	-	-	-	-	-	0.15
FIELD PEAS	-	-	-	-	-	-	-	-
LENTILS	-	-	-	-	-	-	-	-
VETCH	-	-	-	-	-	-	-	-
TOTAL	0.06	0.09	-	-	-	-	-	0.15

TABLE 8.8 ESTIMATES OF AREA BY SIZE OF HOLDING FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C.)

DIRE DAWA

CROP	AREA('000 HECTARES)							TOTAL
	SIZE OF HOLDING IN HECTARES							
	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	0.04	0.15	-	-	-	-	-	0.19
TEFF	-	-	-	-	-	-	-	-
BARLEY	-	-	-	-	-	-	-	-
WHEAT	-	-	-	-	-	-	-	-
MAIZE	0.04	0.15	-	-	-	-	-	0.19
SORGHUM	-	-	-	-	-	-	-	-
MILLET	-	-	-	-	-	-	-	-
OATS	-	-	-	-	-	-	-	-
TOTAL	0.04	0.15	-	-	-	-	-	0.19

2.2 THE 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 were estimated to be 137.49 and 136.76 thousand hectares (i.e. 21.56% and 18.23% of the total area under belg crop) in 1993/94(1986 E.C.) and 1994/95(1987 E.C.) belg seasons, respectively.

Of these totals, the highest 61.19% land area under improved farm management in 1993/94(1986 E.C.) and 63.89% in 1994/95 (1987 E.C.) were exercised in area size group 2. Second and third by rank were area size group 3 and area size group 1, covering 17.21% and 10.28% in 1993/94(1986 E.C.), respectively. While, second and third by rank were group 1 and group 3 in 1994/95 (1987 E.C.), covering 16.37% and 13.92%, respectively (refer Summary Table H).

SUMMARY TABLE H. TOTAL AREA UNDER DIFFERENT FARM MANAGEMENT PRACTICES AND THEIR PERCENT DISTRIBUTION FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, 1993/94(1986 E.C.) AND 1994/95 (1987 E.C.)

AREA SIZE GROUPS (HECTARES)	AREA(000 HECTARES)			
	AREA UNDER FARM MANAGEMENT PRACTICES			
	1993/94 (1986 E.C.)	%	1994/95 (1987 E.C.)	%
UNDER 0.10	14.14	10.28	22.38	16.37
0.10 -0.50	84.13	61.19	87.36	63.89
0.51-1.00	23.66	17.21	19.03	13.92
1.01-2.00	5.87	4.27	6.66	4.87
2.01-5.00	4.40	3.20	1.01	0.74
5.01-10.00	3.80	2.76	-	-
10.01 AND ABOVE	1.49	1.08	0.30	0.22
TOTAL	137.49	100.00	136.74	100.00

1993/94 (1986 E.C.) BELG SEASON RESULTS

TABLE 9. ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES BY AREA SIZE GROUPS FOR BELG SEASON OF PRIVATE HOLDINGS IN ETHIOPIA 1993/94(1986 E.C.)

AREA SIZE GROUPS (HECTARES)	IRRIGATED AREA	IMPROVED SEEDS AREA	AREA ('000 HECTARES)				PESTICIDE
			FERTILIZER APPLIED AREA				
			TOTAL	NATURAL	COMMER.	NAT.+COM.	
UNDER 0.10	2.79	0.55	9.02	5.41	3.61	-	1.78
0.10 -0.50	12.64	4.41	58.57	13.84	43.38	1.35	8.51
0.51 -1.00	1.97	1.36	14.38	3.47	10.91	-	5.96
1.01 -2.00	0.56	0.93	3.07	0.51	2.56	-	1.31
2.01 -5.00	-	-	4.40	-	4.40	-	-
5.01 -10.00	3.80	-	-	-	-	-	-
10.01 AND ABOVE	1.49	-	-	-	-	-	-
TOTAL	23.25	7.25	89.44	23.23	64.86	1.35	17.56

TABLE 9.1 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES BY AREA SIZE GROUPS FOR BELG SEASON OF PRIVATE HOLDINGS IN AMHARA 1993/94(1986 E.C.)

AREA SIZE GROUPS (HECTARES)	IRRIGATED AREA	IMPROVED SEEDS AREA	AREA ('000 HECTARES)				PESTICIDE
			FERTILIZER APPLIED AREA				
			TOTAL	NATURAL	COMMER.	NAT.+COM.	
UNDER 0.10	0.40	0.06	0.44	0.40	0.04	-	0.13
0.10 -0.50	2.78	0.19	6.57	4.70	1.87	-	0.45
0.51 -1.00	-	0.21	1.85	1.35	0.50	-	0.22
1.01 -2.00	-	-	-	-	-	-	-
2.01 -5.00	-	-	-	-	-	-	-
5.01 -10.00	-	-	-	-	-	-	-
10.01 & ABOVE	-	-	-	-	-	-	-
TOTAL	3.18	0.46	8.86	6.45	2.41	-	0.80

TABLE 9.2 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES BY AREA SIZE GROUPS FOR BELG SEASON OF PRIVATE HOLDINGS IN OROMIA 1993/94(1986 E.C.)

AREA SIZE GROUPS (HECTARES)	IRRIGATED AREA	IMPROVED SEEDS AREA	AREA ('000 HECTARES)				PESTICIDE
			FERTILIZER APPLIED AREA				
			TOTAL	NATURAL	COMMER.	NAT.+COM.	
UNDER 0.10	1.83	0.10	1.63	1.09	0.54	-	1.41
0.10 -0.50	6.93	3.05	30.69	4.63	25.84	0.22	6.94
0.51 -1.00	0.80	0.56	6.75	0.72	6.03	-	5.48
1.01 -2.00	0.33	0.93	0.84	-	0.84	-	1.31
2.01 -5.00	-	-	-	-	-	-	-
5.01 -10.00	3.80	-	-	-	-	-	-
10.01 & ABOVE	-	-	-	-	-	-	-
TOTAL	13.69	4.64	39.91	6.44	33.25	0.22	15.14

TABLE 9.3

ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES BY
AREA SIZE GROUPS FOR BELG SEASON OF PRIVATE HOLDINGS IN
1993/94(1986 E.C.)

S.N.N.P.R

AREA SIZE GROUPS (HECTARES)	IRRIGATED AREA	IMPROVED SEEDS AREA	AREA ('000 HECTARES)				PESTICIDE
			FERTILIZER APPLIED AREA				
			TOTAL	NATURAL	COMMER.		
UNDER 0.10	0.55	0.39	6.95	3.92	3.03	-	0.25
0.10 -0.50	2.84	1.17	21.25	4.46	15.67	1.12	1.11
0.51 -1.00	1.17	0.58	5.78	1.40	4.38	-	0.26
1.01 -2.00	0.23	-	2.23	0.51	1.72	-	-
2.01 -5.00	-	-	4.40	-	4.40	-	-
5.01 -10.00	-	-	-	-	-	-	-
10.01 & ABOVE	1.49	-	-	-	-	-	-
TOTAL	6.28	2.14	40.61	10.29	29.20	1.12	1.63

TABLE 9.4

ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES BY
AREA SIZE GROUPS FOR BELG SEASON OF PRIVATE HOLDINGS IN
1993/94(1986 E.C.)

DIRE DAWA

AREA SIZE GROUPS (HECTARES)	IRRIGATED AREA	IMPROVED SEEDS AREA	AREA ('000 HECTARES)				PESTICIDE
			FERTILIZER APPLIED AREA				
			TOTAL	NATURAL	COMMER.		
UNDER 0.10	0.02	-	-	-	-	-	-
0.10 -0.50	0.09	-	0.07	0.06	-	0.01	-
0.51 -1.00	-	-	-	-	-	-	-
1.01 -2.00	-	-	-	-	-	-	-
2.01 -5.00	-	-	-	-	-	-	-
5.01 -10.00	-	-	-	-	-	-	-
10.01 & ABOVE	-	-	-	-	-	-	-
TOTAL	0.11	-	0.07	0.06	-	0.01	-

1994/95 (1987 E.C.) BELG SEASON RESULTS

TABLE 10. ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES BY AREA SIZE GROUPS FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN, ETHIOPIA
1994/95(1987 E.C.)

AREA SIZE GROUPS (HECTARES)	IRRIGATED AREA	IMPROVED SEEDS AREA	AREA ('000 HECTARES)				PESTICIDE
			FERTILIZER APPLIED AREA				
			TOTAL	NATURAL	COMMER.	NAT.+COM.	
UNDER 0.10	3.31	0.86	18.03	12.19	5.74	0.10	0.18
0.10 -0.50	15.81	2.31	65.05	18.05	46.72	0.28	4.19
0.51-1.00	2.01	1.26	13.56	1.26	12.30	-	2.20
1.01-2.00	0.18	-	5.33	-	5.33	-	1.15
2.01-5.00	1.01	-	-	-	-	-	-
5.01-10.00	-	-	-	-	-	-	-
10.01 AND ABOVE	-	-	0.30	-	0.30	-	-
TOTAL	22.32	4.43	102.27	31.50	70.39	0.38	7.72

TABLE 10.1 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES BY AREA SIZE GROUPS FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN, AMHARA
1994/95(1987 E.C.)

AREA SIZE GROUPS (HECTARES)	IRRIGATED AREA	IMPROVED SEEDS AREA	AREA ('000 HECTARES)				PESTICIDE
			FERTILIZER APPLIED AREA				
			TOTAL	NATURAL	COMMER.	NAT.+COM.	
UNDER 0.10	0.78	0.02	0.72	0.58	0.14	-	-
0.10 -0.50	6.30	0.11	3.09	2.02	1.07	-	-
0.51-1.00	1.39	-	1.10	0.43	0.67	-	-
1.01-2.00	-	-	-	-	-	-	-
2.01-5.00	-	-	-	-	-	-	-
5.01-10.00	-	-	-	-	-	-	-
10.01 & ABOVE	-	-	-	-	-	-	-
TOTAL	8.47	0.13	4.91	3.03	1.88	-	-

TABLE 10.2 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES BY AREA SIZE GROUPS FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN, OROMIA
1994/95(1987 E.C.)

AREA SIZE GROUPS (HECTARES)	IRRIGATED AREA	IMPROVED SEEDS AREA	AREA ('000 HECTARES)				PESTICIDE
			FERTILIZER APPLIED AREA				
			TOTAL	NATURAL	COMMER.	NAT.+COM.	
UNDER 0.10	2.00	0.29	2.16	1.21	0.95	-	0.18
0.10 -0.50	7.54	1.75	24.77	3.27	21.34	0.16	4.19
0.51-1.00	0.44	1.26	5.17	-	5.17	-	2.20
1.01-2.00	-	-	1.28	-	1.28	-	1.15
2.01-5.00	1.01	-	-	-	-	-	-
5.01-10.00	-	-	-	-	-	-	-
10.01 & ABOVE	-	-	0.30	-	0.30	-	-
TOTAL	10.99	3.30	33.68	4.48	29.04	0.16	7.72

TABLE 10.3 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES BY AREA SIZE GROUPS FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN, 1994/95(1987 E.C.)

S.N.N.P.R

AREA SIZE GROUPS (HECTARES)	IRRIGATED AREA	IMPROVED SEEDS AREA	AREA ('000 HECTARES)				PESTICIDE
			FERTILIZER APPLIED AREA				
			TOTAL	NATURAL	COMMER.	NAT.+COM.	
UNDER 0.10	0.50	0.55	15.12	10.37	4.65	0.10	-
0.10 -0.50	1.84	0.45	37.09	12.70	24.27	0.12	-
0.51-1.00	0.18	-	7.29	0.83	6.46	-	-
1.01-2.00	0.18	-	4.05	-	4.05	-	-
2.01-5.00	-	-	-	-	-	-	-
5.01-10.00	-	-	-	-	-	-	-
10.01 & ABOVE	-	-	-	-	-	-	-
TOTAL	2.70	1.00	63.55	23.90	39.43	0.22	-

TABLE 10.4 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES BY AREA SIZE GROUPS FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN, 1994/95(1987 E.C.)

HARARI

AREA SIZE GROUPS (HECTARES)	IRRIGATED AREA	IMPROVED SEEDS AREA	AREA ('000 HECTARES)				PESTICIDE
			FERTILIZER APPLIED AREA				
			TOTAL	NATURAL	COMMER.	NAT.+COM.	
UNDER 0.10	-	-	-	-	-	-	-
0.10 -0.50	-	-	0.02	-	0.02	-	-
0.51-1.00	-	-	-	-	-	-	-
1.01-2.00	-	-	-	-	-	-	-
2.01-5.00	-	-	-	-	-	-	-
5.01-10.00	-	-	-	-	-	-	-
10.01 & ABOVE	-	-	-	-	-	-	-
TOTAL	-	-	0.02	-	0.02	-	-

TABLE 10.5 ESTIMATES OF AREA UNDER IMPROVED FARM MANAGEMENT PRACTICES BY AREA SIZE GROUPS FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN, 1994/95(1987 E.C.)

DIRE DAWA

AREA SIZE GROUPS (HECTARES)	IRRIGATED AREA	IMPROVED SEEDS AREA	AREA ('000 HECTARES)				PESTICIDE
			FERTILIZER APPLIED AREA				
			TOTAL	NATURAL	COMMER.	NAT.+COM.	
UNDER 0.10	0.03	-	0.03	0.03	-	-	-
0.10 -0.50	0.13	-	0.08	0.06	0.02	-	-
0.51-1.00	-	-	-	-	-	-	-
1.01-2.00	-	-	-	-	-	-	-
2.01-5.00	-	-	-	-	-	-	-
5.01-10.00	-	-	-	-	-	-	-
10.01 & ABOVE	-	-	-	-	-	-	-
TOTAL	0.16	-	0.11	0.09	0.02	-	-

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

For the purpose of preparing this report 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, the total number of belg crop producing holders and the number of belg crop producing holders reporting use of farm management practices and their percentage distribution for belg season crops of private holdings in 1993/94(1986 E.C.) and 1994/95(1987 E.C.) is presented in the Summary Table I. As indicated in Summary Table I, a total of 3,206.11 and 3,202.42 thousand belg crop producing holders were engaged in the over all belg season agricultural activities in 1993/94(1986 E.C.) and 1994/95(1987E.C.) respectively. As mentioned above, these holders are categorized in to nine age groups, based on the age of the holder. Accordingly, 823.05 thousand holders (25.67%) in 1993/94(1986 E.C.) and 843.20 thousand holders (26.33%) in 1994/95(1987 E.C) were estimated to fall in the age group 5.

Moreover, it was estimated that 692,260 and 634,090 number of belg crop producing holders reported the use of improved farm management practices during 1993/94(1986 E.C) and 1994/95(1987 E.C.), respectively. Of these totals, the highest number of holders were estimated to be 159,810 (23.09%) in 1993/94(1986 E.C.) and 151,860 (23.95%) in 1994/95(1987 E.C) who fall in the age group 5. Furthermore, in both years group 8 and 6 ranked second and third, respectively. (for details see Summary Table I).

SUMMARY TABLE I. NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES AND THEIR PERCENT DISTRIBUTION FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN ETHIOPIA, 1993/94(1986 E.C.) AND 1994/95 (1987 E.C.)

AGE IN YEARS	NUMBER IN THOUSANDS						
	TOTAL NO. OF BELG CROP PRODUCING HOLDERS		NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF FARM MANAGEMENT PRACTICES				
	1993/94 (1986 E.C.)	1994/95 (1987 E.C.)	1993/94 (1986 E.C.)	%	1994/95 (1987 E.C.)	%	% CHANGE
UNDER 18	17.33	16.92	2.02	0.29	4.10	0.65	102.97
18-20	63.30	51.49	14.21	2.05	15.29	2.41	7.60
21-24	141.30	133.78	37.97	5.48	41.13	6.49	8.32
25-29	393.77	378.01	102.34	14.78	93.16	14.69	-8.97
30-39	823.05	843.20	159.81	23.09	151.86	23.95	-4.97
40-49	735.49	722.23	134.59	19.44	117.17	18.48	-12.94
50-59	499.59	473.51	88.68	12.81	89.45	14.11	0.87
60 & ABOVE	532.28	583.28	152.64	22.05	121.93	19.23	-20.12
NOT STATED			-	-	-	-	-
TOTAL	3206.11	3202.42	692.26	100.00	634.09	100.00	-8.40

1993/94 (1986 E.C.) BELG SEASON RESULTS

TABLE 11. NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES BY AGE FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

ETHIOPIA

NUMBER IN THOUSANDS

AGE IN YEARS	NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZER	COMMER. FERTILIZER	NAT. +COM.	PESTICIDE
UNDER 18	0.67	—	0.71	0.65	—	—
18-20	3.12	—	4.83	4.78	—	1.49
21-24	7.86	1.86	7.60	14.72	1.22	4.73
25-29	12.67	2.03	20.83	57.65	0.33	8.83
30-39	34.86	7.58	30.60	72.42	0.05	14.30
40-49	32.63	7.63	14.09	60.55	1.90	17.79
50-59	29.68	3.93	13.47	32.10	+	9.50
60 & ABOVE	30.80	11.27	48.57	52.51	—	9.49
NOT STATED	—	—	—	—	—	—
TOTAL	152.28	34.28	140.69	295.38	3.50	66.12

TABLE 11.1 NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES BY REGION FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

NUMBER IN THOUSANDS

REGION	NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZER	COMMER. FERTILIZER	NAT. +COM.	PESTICIDE
TIGRAY	—	—	—	—	—	—
AFAR	—	—	—	—	—	—
AMHARA	43.25	3.19	20.93	9.24	—	6.78
OROMIA	84.75	17.60	42.62	143.31	0.33	48.41
BENSHANGULGUMEZ	—	—	—	—	—	—
S.N.N.P.R	23.12	13.44	76.73	142.84	3.12	10.93
GAMBELA	—	—	—	—	—	—
HARARI	—	—	—	—	—	—
ADDIS ABABA	—	—	—	—	—	—
DIRE DAWA	1.16	0.06	0.41	—	0.05	—
TOTAL	152.28	34.28	140.69	295.38	3.50	66.12

TABLE 11.2 NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES BY AGE FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

AMHARA

AGE IN YEARS	NUMBER IN THOUSANDS					
	NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZER	COMMER. FERTILIZER	NAT. +COM.	PESTICIDE
UNDER 18	0.00	-	-	-	-	-
18-20	0.66	-	-	0.42	-	-
21-24	0.85	-	0.41	0.84	-	0.38
25-29	1.07	-	4.19	3.17	-	0.67
30-39	10.59	0.48	7.65	1.47	-	1.12
40-49	10.59	0.45	2.96	2.93	-	2.00
50-59	7.40	1.58	3.22	-	-	1.03
60 & ABOVE	12.09	0.68	2.51	0.42	-	1.58
NOT STATED	-	-	-	-	-	-
TOTAL	43.25	3.19	20.93	9.24	-	6.78

TABLE 11.2.1 NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN AMHARA REGION BY ZONE, 1993/94(1986 E.C.)

ZONE	NUMBER IN THOUSANDS					
	NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZER	COMMER. FERTILIZER	NAT. +COM.	PESTICIDE
AGEWAWI	-	-	-	-	-	-
EAST GOJAM	-	-	-	-	-	-
WEST GOJAM	0.81	-	-	-	-	-
NORTH GONDER	-	-	0.42	5.86	-	0.84
SOUTH GONDER	4.27	0.93	0.35	-	-	-
NORTH SHOA	12.65	-	6.23	-	-	3.52
OROMIA	0.56	-	0.56	-	-	-
WAG-HAMRA	-	-	-	-	-	-
NORTH WOLLO	22.96	0.89	2.05	-	-	1.14
SOUTH WOLLO	2.01	1.37	11.33	3.38	-	1.28
TOTAL	43.25	3.19	20.93	9.24	-	6.78

TABLE 11.3

NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES BY AGE FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

OROMIA

AGE IN YEARS	NUMBER IN THOUSANDS					
	NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZER	COMMER. FERTILIZER	NAT. +COM.	PESTICIDE
UNDER 18	0.49	-	-	-	-	-
18-20	1.24	-	1.95	3.12	-	1.49
21-24	5.38	1.86	1.87	7.42	-	4.27
25-29	7.42	0.42	4.95	14.82	0.33	6.72
30-39	13.59	2.11	14.07	36.17	-	9.85
40-49	19.40	6.16	6.27	34.96	-	13.38
50-59	20.77	0.93	7.35	22.66	-	6.81
60 & ABOVE	16.47	6.12	6.17	24.17	-	5.90
NOT STATED	-	-	-	-	-	-
TOTAL	84.75	17.60	42.62	143.31	0.33	48.41

TABLE 11.3.1

NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN OROMIYA REGION BY ZONE, 1993/94(1986 E.C.)

ZONE	NUMBER IN THOUSANDS					
	NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZER	COMMER. FERTILIZER	NAT. +COM.	PESTICIDE
ARSI	0.58	-	7.34	48.59	-	4.36
BALE	0.73	2.00	-	35.62	-	24.56
BORENA	0.28	13.43	-	-	-	-
EAST HARARGHE	9.33	-	18.30	-	-	1.03
WEST HARARGHE	-	-	5.92	-	-	0.53
ILLUBABOR	-	-	2.51	-	-	-
JIMA	-	1.05	3.69	48.72	-	9.66
EAST SHOA	-	-	-	7.46	-	1.56
NORTH SHOA	5.43	-	-	-	-	-
WEST SHOA	25.61	0.74	4.15	0.65	0.33	1.28
EAST WELLEGA	33.47	-	-	-	-	0.86
WEST WELLEGA	9.33	0.38	0.71	2.28	-	4.58
TOTAL	84.75	17.60	42.62	143.31	0.33	48.41

TABLE 11.4

NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES BY AGE FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

S.N.N.P.R

AGE IN YEARS	NUMBER IN THOUSANDS					
	NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZER	COMMER. FERTILIZER	NAT. +COM.	PESTICIDE
UNDER 18	0.18	-	0.71	0.65	-	-
18-20	1.22	-	2.88	1.24	-	-
21-24	1.57	-	5.32	6.46	1.22	0.08
25-29	3.92	1.61	11.55	39.67	-	1.45
30-39	10.31	4.93	8.74	34.79	-	3.33
40-49	2.52	1.01	4.81	22.66	1.90	2.41
50-59	1.40	1.42	2.84	9.45	-	1.65
60 & ABOVE	1.99	4.46	39.89	27.92	-	2.01
NOT STATED	-	-	-	-	-	-
TOTAL	23.12	13.44	76.73	142.84	3.12	10.93

TABLE 11.4.1

NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF IMPROVED
FARM MANAGEMENT PRACTICES FOR BELG SEASON CROPS OF PRIVATE
HOLDINGS IN S.N.N.P.R BY ZONE, 1993/94(1986 E.C.)

NUMBER IN THOUSANDS

ZONE	NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZER	COMMER. FERTILIZER	NAT. +COM.	PESTICIDE
BENCH	-	-	-	-	-	-
GEDIO	-	-	0.33	-	-	-
GURAGHE	-	-	-	-	-	-
HADIYA	-	-	1.52	23.32	-	7.13
KEMBATA	-	-	1.74	12.43	-	-
KEFICHO	-	0.81	1.63	-	-	-
MAJI	-	-	-	-	-	-
NORTH OMO	15.51	11.21	55.64	40.17	1.22	0.65
SOUTH OMO	-	0.12	0.14	-	-	0.74
SHEKICHO	-	-	-	0.27	-	1.61
SIDAMA	-	0.82	10.28	66.65	1.90	-
AMARO WEREDA	-	-	-	-	-	-
BURJI WEREDA	-	-	-	-	-	-
GARDULA WEREDA	6.01	-	-	-	-	-
KONSO WEREDA	1.60	0.48	5.46	-	-	0.80
YEM WEREDA	-	-	-	-	-	-
TOTAL	23.12	13.44	76.73	142.84	3.12	10.93

TABLE 11.5

NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF IMPROVED
FARM MANAGEMENT PRACTICES BY AGE FOR BELG SEASON CROPS
OF PRIVATE HOLDINGS IN 1993/94(1986 E.C.)

DIRE DAWA

NUMBER IN THOUSANDS

AGE IN YEARS	NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZER	COMMER. FERTILIZER	NAT. +COM.	PESTICIDE
UNDER 18	-	-	-	-	-	-
18-20	-	-	-	-	-	-
21-24	0.06	-	-	-	-	-
25-29	0.26	-	0.14	-	-	-
30-39	0.37	0.06	0.15	-	0.05	-
40-49	0.12	-	0.06	-	-	-
50-59	0.11	-	0.06	-	-	-
60 & ABOVE	0.24	-	-	-	-	-
NOT STATED	-	-	-	-	-	-
TOTAL	1.16	0.06	0.41	-	0.05	-

1994/95 (1987 E.C.) BELG SEASON RESULTS

TABLE 12. NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES BY AGE FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C.)

ETHIOPIA

AGE IN YEARS	NUMBER IN THOUSANDS					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZER	COMMER. FERTILIZER	NAT. +COM.	PESTICIDE
UNDER 18	—	—	3.39	0.71	—	—
18-20	5.47	—	6.57	2.67	—	0.58
21-24	10.54	—	11.25	15.87	1.01	2.46
25-29	19.77	3.62	26.19	42.22	1.07	0.29
30-39	41.88	7.02	27.32	69.02	1.15	5.47
40-49	29.56	9.13	25.95	44.99	—	7.54
50-59	33.13	5.89	16.74	31.04	—	2.65
60 & ABOVE	30.31	6.14	17.18	62.22	—	6.08
NOT STATED	—	—	—	—	—	—
TOTAL	170.66	31.80	134.59	268.74	3.23	25.07

TABLE 12.1 NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES BY REGION FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C.)

REGION	NUMBER IN THOUSANDS					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZER	COMMER. FERTILIZER	NAT.+COM.	PESTICIDE
TIGRAY	—	—	—	—	—	—
AFAR	—	—	—	—	—	—
AMHARA	55.39	1.44	22.61	12.08	—	—
OROMIA	99.32	13.69	51.51	123.78	1.15	25.07
BENSHANGULGUMEZ	—	—	—	—	—	—
S.N.N.P.R	14.75	16.67	59.57	132.65	2.08	—
GAMBELA	—	—	—	—	—	—
HARARI	—	—	—	0.14	—	—
ADDIS ABABA	—	—	—	—	—	—
DIRE DAWA	1.20	—	0.90	0.09	—	—
TOTAL	170.66	31.8	134.59	268.74	3.23	25.07

TABLE 12.2 NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES BY AGE FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C.)

AMHARA

AGE IN YEARS	NUMBER IN THOUSANDS					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZER	COMMER. FERTILIZER	NAT. +COM.	PESTICIDE
UNDER 18	—	—	—	—	—	—
18-20	1.30	—	—	—	—	—
21-24	3.36	—	—	0.32	—	—
25-29	4.42	0.51	0.86	—	—	—
30-39	16.43	0.48	4.85	4.28	—	—
40-49	8.76	—	3.73	1.37	—	—
50-59	13.00	0.45	4.19	3.55	—	—
60 & ABOVE	8.12	—	8.98	2.56	—	—
NOT STATED	—	—	—	—	—	—
TOTAL	55.39	1.44	22.61	12.08	—	—

TABLE 12.2.1

NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN AMHARA REGION BY ZONE, 1994/95(1987 E.C.)

NUMBER IN THOUSANDS

ZONE	NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZER	COMMER. FERTILIZER	NAT. +COM.	PESTICIDE
AGEWAWI	13.93	-	0.32	5.83	-	-
EAST GOJAM	-	-	-	-	-	-
WEST GOJAM	-	-	-	-	-	-
NORTH GONDER	-	-	-	-	-	-
SOUTH GONDER	-	0.48	-	-	-	-
NORTH SHOA	12.85	-	7.14	4.42	-	-
OROMIA	-	-	0.56	-	-	-
WAG-HAMRA	-	-	-	-	-	-
NORTH WOLLO	22.12	0.96	0.76	0.45	-	-
SOUTH WOLLO	6.49	-	13.83	1.38	-	-
TOTAL	55.39	1.44	22.61	12.08	-	-

TABLE 12.3

NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES BY AGE FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C.)

OROMIA

NUMBER IN THOUSANDS

AGE IN YEARS	NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZER	COMMER. FERTILIZER	NAT. +COM.	PESTICIDE
UNDER 18	-	-	-	-	-	-
18-20	3.48	-	1.63	0.73	-	0.58
21-24	6.46	-	1.66	8.26	-	2.46
25-29	11.36	0.83	3.36	11.76	-	0.29
30-39	18.75	0.42	12.81	37.24	1.15	5.47
40-49	19.95	4.71	15.35	23.96	-	7.54
50-59	18.36	2.31	10.38	16.82	-	2.65
60 & ABOVE	20.96	5.42	6.32	25.01	-	6.08
NOT STATED	-	-	-	-	-	-
TOTAL	99.32	13.69	51.51	123.78	1.15	25.07

TABLE 12.3.1

NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF IMPROVED FARM MANAGEMENT PRACTICES FOR BELG SEASON CROPS OF PRIVATE HOLDINGS IN OROMIYA REGION BY ZONE, 1994/95(1987 E.C.)

NUMBER IN THOUSANDS

ZONE	NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZER	COMMER. FERTILIZER	NAT. +COM.	PESTICIDE
ARSI	-	1.02	13.01	79.6	-	24.73
BALE	-	0.76	0.22	31.12	-	-
BORENA	-	11.25	-	-	-	0.34
EAST HARARGHE	-	-	28.83	1.59	1.15	-
WEST HARARGHE	2.68	0.36	-	-	-	-
ILLUBABOR	0.25	-	-	-	-	-
JIMA	-	-	4.18	-	-	-
EAST SHOA	2.48	-	-	9.15	-	-
NORTH SHOA	6.8	0.3	-	-	-	-
WEST SHOA	25.04	-	1.28	0.64	-	-
EAST WELLEGA	47.4	-	3.99	-	-	-
WEST WELLEGA	14.67	-	-	1.68	-	-
TOTAL	99.32	13.69	51.51	123.78	1.15	25.07

TABLE 12.4

NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF IMPROVED
FARM MANAGEMENT PRACTICES BY AGE FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C.)

S.N.N.P.R

NUMBER IN THOUSANDS

AGE IN YEARS	NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZER	COMMER. FERTILIZER	NAT. +COM.	PESTICIDE
UNDER 18	-	-	3.39	0.71	-	-
18-20	0.69	-	4.94	1.94	-	-
21-24	0.61	-	9.48	7.29	1.01	-
25-29	3.70	2.28	21.86	30.37	1.07	-
30-39	6.39	6.12	9.39	27.50	-	-
40-49	0.69	4.42	6.75	19.52	-	-
50-59	1.66	3.13	2.06	10.67	-	-
60 & ABOVE	1.01	0.72	1.70	34.65	-	-
NOT STATED	-	-	-	-	-	-
TOTAL	14.75	16.67	59.57	132.65	2.08	-

TABLE 12.4.1

NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF IMPROVED
FARM MANAGEMENT PRACTICES FOR BELG SEASON CROPS OF PRIVATE
HOLDINGS IN S.N.N.P.R BY ZONE, 1994/95(1987 E.C.)

NUMBER IN THOUSANDS

ZONE	NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZER	COMMER. FERTILIZER	NAT. +COM.	PESTICIDE
BENCH	-	-	-	-	-	-
GEDIO	-	-	-	-	-	-
GURAGHE	-	-	-	-	-	-
HADIYA	1.46	-	2.35	28.75	-	-
KEMBATA	-	-	5.32	16.16	-	-
KEFICHO	-	-	-	-	-	-
MAJI	-	-	-	-	-	-
NORTH OMO	11.87	13.27	35.99	53.54	2.08	-
SOUTH OMO	-	-	-	-	-	-
SHEKICHO	-	-	-	-	-	-
SIDAMA	0.62	3.4	6.67	34.2	-	-
AMARO WEREDA	-	-	-	-	-	-
BURJI WEREDA	-	-	-	-	-	-
GARDULA WEREDA	-	-	-	-	-	-
KONSO WEREDA	0.8	-	9.24	-	-	-
YEM WEREDA	-	-	-	-	-	-
TOTAL	14.75	16.67	59.57	132.65	2.08	-

TABLE 12.5

NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF IMPROVED
FARM MANAGEMENT PRACTICES BY AGE FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C.)

HARARI

NUMBER IN THOUSANDS

AGE IN YEARS	NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZER	COMMER. FERTILIZER	NAT. +COM.	PESTICIDE
UNDER 18	-	-	-	-	-	-
18-20	-	-	-	-	-	-
21-24	-	-	-	-	-	-
25-29	-	-	-	-	-	-
30-39	-	-	-	-	-	-
40-49	-	-	-	0.14	-	-
50-59	-	-	-	-	-	-
60 & ABOVE	-	-	-	-	-	-
NOT STATED	-	-	-	-	-	-
TOTAL	-	-	-	0.14	-	-

TABLE 12.6

NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF IMPROVED
FARM MANAGEMENT PRACTICES BY AGE FOR BELG SEASON
CROPS OF PRIVATE HOLDINGS IN 1994/95(1987 E.C.)

DIRE DAWA

NUMBER IN THOUSANDS

AGE IN YEARS	NUMBER OF BELG CROP PRODUCING HOLDERS REPORTING USE OF					
	IRRIGATION	IMPROVED SEEDS	NATURAL FERTILIZER	COMMER. FERTILIZER	NAT. +COM.	PESTICIDE
UNDER 18	-	-	-	-	-	-
18-20	-	-	-	-	-	-
21-24	0.11	-	0.11	-	-	-
25-29	0.29	-	0.11	0.09	-	-
30-39	0.31	-	0.27	-	-	-
40-49	0.16	-	0.12	-	-	-
50-59	0.11	-	0.11	-	-	-
60 & ABOVE	0.22	-	0.18	-	-	-
NOT STATED	-	-	-	-	-	-
TOTAL	1.20	-	0.90	0.09	-	-

APPENDIX – I
ESTIMATION PROCEDURES

APPENDIX I - ESTIMATION PROCEDURES

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 are 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

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

in which

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

is the weight

Where

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

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

m_{hi} is number of 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.

APPENDIX – II
SURVEY QUESTIONNAIRES

CENTRAL STATISTICAL AUTHORITY
 NATIONAL INTEGRATED HOUSEHOLD SURVEY PROGRAM
 AGRICULTURAL SAMPLE SURVEY - 1987 E.C.

FORM ASS- 87/7A-1

PART 1 - IDENTIFICATION PARTICULARS

JOB ID	1	2	3																			
	1	8	6																			
1	2		3		4		5		6		7		8		9		10		11		12	
REGION		ZONE		WEREDA		SUPERMISION AREA		FARMERS' ASSOCIATION		ENUMERATION AREA		HOUSEHOLD ID NUMBER (ASS*87/1 prt2 col1)		HOLDER ID NUMBER (ASS*87/1 prt2 col3)		HOLDERS NAME		SEX	AGE	EDUC. STATUS (grade compl)		

PART 2- LIST OF FIELDS AND AGRICULTURAL PRACTICES (1986 E.C. BELG SEASON)

1	2		3		4	5	6	7	8	9				10				11	12	13	14		15	16	17	
	LINE NO.	PARCEL	FIELD	CROP NAME TEMPORARY						CODE	SEED USE IMPRVD=1	INDIGN.=2	IRRIG. USE YES=1	NO=2	USE IF YES NATURL=1	COMM=2	BOTH=3				IF COMMERCIAL FERT. UREA=1	DAP=2				BOTH=3
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54		
0	1																									
0	2																									
0	3																									
0	4																									
0	5																									
0	6																									
0	7																									
0	8																									
0	9																									
1	0																									

NOTES ON COL. 12 ABOVE

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

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

CENTRAL STATISTICAL AUTHORITY
 NATIONAL INTEGRATED HOUSEHOLD SURVEY PROGRAM
 AGRICULTURAL SAMPLE SURVEY - 1987 E.C.

FORM ASS-87/7B-1

PART 1 - IDENTIFICATION PARTICULARS

JOB ID	1	2	3																										
	1	8	8																										
1	2		3		4		5		6		7		8		9		10		11		12		13		14				
REGION	ZONE		WEREDA		SUPERVISION AREA		FARMERS' ASSOCIATION		ENUMERATION AREA		HOUSEHOLD ID NUMBER (ASS*87/1 prt2 col1)		HOLDER ID NUMBER (ASS*87/1 prt2 col3)		HOLDERS NAME		SEX	AGE	EDUC. STATUS (grade compl)	NUMBER OF MEMBERS OF HOLDERS HH.	TYPE OF AGRICULT. CROP=1 LV.STO=2 BOTH=3								
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29			

PART 2- LIST OF FIELDS AND AGRICULTURAL PRACTICES (1987 E.C. BELG SEASON)

LINE NO.	SERIAL NO. OF		CROP NAME TEMPORARY	CODE	TYPE OF SEED USE IMPRVD=1 INDIGN.=2	USE OF IRRIG. YES=1 NO=2	USE OF YES=1 NO=2	USE OF FERTILIZERS						USE OF PEST-CIDES YES=1 NO=2	WAS CROP DAMAGED ?			REMARKS											
	PARCEL	FIELD						IF YES		IF COMMERCIAL FERT.		QUANTITY	IF YES		PERCENT DAMAGED														
	30	31	32	33	34	35	36	37	38	39	40		41	42		43	44	45	46	47	48	49	50	51	52	53	54		
0	1																												
0	2																												
0	3																												
0	4																												
0	5																												
0	6																												
0	7																												
0	8																												
0	9																												
1	0																												

NOTES ON COL. 12 ABOVE

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

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

