

THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
CENTRAL STATISTICAL AUTHORITY

AGRICULTURAL SAMPLE SURVEY

2004/05(1997 E.C) VOLUME VI



REPORT ON FARM MANAGMENT
BELG SEASON CROPS
FOR
PRIVATE PEASANT HOLDINGS

ADDIS ABABA
OCTOBER 2005

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STATISTICAL BULLETIN

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I. INTRODUCTION AND OBJECTIVES OF THE SURVEY

1.1 Introduction

Country's experience showed that farmers' attitude and tendency to adopt and accept new innovations, modern agricultural techniques and technologies, such as use of fertilizers, irrigation, improved seeds and pesticides that help to improve their living standards through attaining enhanced productivity, do have positive 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 peasant farmers can be considered as important indicators for estimating the rate of adoption of modern technologies.

This report which is Volume VI of the six series reports, presents quantitative information about the use of modern agricultural inputs for Belg season crops of **2004/05 (1997 E.C.)** of the private peasant holdings for the country and regions as it was obtained from the results of the Belg Season Crop Production Sample Survey conducted in June, **2005** by the Central Statistical Authority (CSA).

1.2 Objectives of the 2004/05 (1997 E.C) Belg Season Crop

Production Sample Survey

The objectives of the **2004/05 (1997 E.C.)** Belg Season Crop Production Sample Survey is to produce basic quantitative information on cropland area, production and yield, of major Belg season crops, as well as to provide quantitative information on:-

- Cropland area, production and yield of major Belg season crops
- The extent and use of different farm management practices on Belg season crops such as fertilized crop land area and quantity of fertilizer used by crop and fertilizer type, irrigated cropland area under improved seed, pesticide treated cropland area ... etc.

The adequate and timely supply of this information to ultimate users is, therefore, important for use as a primary input in the process of policy formulation, designing developmental agricultural projects and programmes. This report, therefore, presents quantitative information on the above mentioned major variables at country and regional levels.

2.2 Sample Design

A stratified two-stage cluster sample design was used to select the sample. Enumeration areas (EA's) were taken to be the primary sampling units (PSU's) and the secondary sampling units (SSU's) were agricultural households. Sample enumeration areas from each stratum were sub-samples of the 2001/2 (1994 E.C) Ethiopian Agricultural Sample Enumeration. They were selected using probability proportional to size systematic sampling; size being number of agricultural households obtained from the 1994 Population & Housing Census and adjusted for the sub-sampling effect. Within each sample EA a fresh list of households was prepared and 25 agricultural households from each sample EA were systematically selected at the second stage. The survey questionnaire was finally administered for those 25 agricultural households selected at the second stage. Information on area under crops, Belg season production of crops, agricultural practices, crop damage, and quantity of agricultural inputs used were obtained from the 25 households that were ultimately selected.

The sample size for the (2004/5) agricultural sample survey was determined by taking in to account of both the required level of precision for the most important estimates within each domain and the amount of resources allocated to the survey. In order to reduce non-sampling errors manageability of the survey in terms of quality and operational control was also in addition considered.

Except Harari, Addis Ababa and Dire Dawa, where the region as a whole were taken to be the domain of estimation, each zone of a region / special wereda that is considered to be a zone by itself was adopted as a stratum for which major findings of the survey are computed. However, by aggregating the results obtained from each zone the final report is provided only at regional & country level.

Estimation procedure for totals & ratios and their sampling errors are given in Appendix I. Estimates of standard errors and Coefficient of Variations for selected estimates are also presented in Appendix II.

Remark: As of the 2001/2 Ethiopian Agricultural Sample Enumeration, Addis Ababa City Administration had a total of 35 enumeration areas. However, during the 2004 Urban Economic Establishments Census it was found that some of the rural enumeration areas (EAs) were to be part of the urban areas of the city. Consequently only 24 enumeration

areas were left as the rural EAs of the City Administration. Therefore, the 2004/5 (1997 E.C) annual Agricultural Sample Survey (Belg Season) covered all the 24 EAs with certainty. Hence, there could be great variation among estimates of area & crop production of the 2004/5 (1997 E.C) and that of the previous years.

2.3 Field Organization

The Central Statistical Authority (CSA) branch statistical office heads, field supervisors and enumerators, other supporting staff and drivers were all involved in the field operation activities of the 2004/05(1997 E.C.) Belg season Crop Production Sample survey. To accomplish the data collection activities, all field enumerators were equipped with the necessary survey equipment (i.e. compass, programmable calculator, protractor, ruler, measuring tape, balance scale, iron peg, ropes, sample bags... etc) at the completion of training. To assist with the fieldwork and data collection activities all available four-wheel drive vehicles were used for supervision and collection of completed questionnaires.

2.4 Training of Field Staff

The field staff-training program was carried out in two stages. The first stage consisted of trainees from the head office, branch statistical office heads, statisticians and some of the field supervisors have been given training for one week at CSA's headquarters in Addis Ababa. Many of those trained in the first stage conducted similar training for field supervisors and enumerators for **10 days** in CSA's 24 branch offices, which are distributed all over the country. During the second stage training, the field staff were given detailed classroom instruction on the objectives and uses of the Agricultural Sample Survey (AgSS) concepts, definitions of terms used, the method of area measurement, method of crop cutting, as well as correct interviewing procedures, ... etc. The enumerator's and supervisors' training also included a field practice to reinforce the concepts discussed in the classroom with regard to field measurement and crop cutting data collection.

2.5 Methods of Data Collection.

Except Cropland area of major Belg Season Crop, the data of which collected objectively using compasses and measuring tape, the information on production of major Belg Season crops and agricultural practices (uses of fertilizer, pesticide, improved seed and irrigation) were subjectively collected by interviewing the holders of sampled households. **Appendix II**, illustrates the total

number of EAs and households reporting for the 2004/05 (1997E.C) Belg crop productions by region.

A major characteristic of Ethiopian agriculture is the existence of two well-known crop production seasons referred to as the Meher (or main) and Belg Seasons. The generally accepted definition of the Meher season is that of the long rainy season, which normally occurs from June to September. The Belg Season most often refers to small but timely rainy season, which normally occurs from February to May but in limited areas of the country. Generally, the Meher Season rainy period provides ideal growing conditions for the longer maturing crops. Planting and harvest of Meher crops can extend to December or January in some areas. Most of the time holders rely on short maturing crops for planting during the Belg rainy period and harvest of the crops is in June or July.

A point of contention arises with respect to the pure definition of the Belg crop. Belg cropping practices are heterogeneous across different portions of the country. The nature of the sowing period also overlaps with some of the Meher Season crops. Consequently, the report on Belg Season crops in the past faced a problem of a clearly defined growing period. It is important not to overlook or miss agricultural practices performed all year round due to use of irrigation or soil moisture from sufficiently dried areas that from time-to-time are swampy or marshy. To help clarify the two-crop season, the following definition has been in use 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 Meher (or main) season crops.

This report consists of estimates of area under farm management practices of major Belg Season crops for the year 2004/05 (1997 E.C). The data collection period for obtaining the area, production and agricultural practices of the Belg season crops ranged from 'Sene' 15-30, 1997 E.C. (i.e. From June 23 to July 7, 2005). Data on area under Belg season crop are collected objectively using compass and measuring tapes, while data on production of belg season crops were using subjective method based on face-to-face interviewing of the holder by the enumerator. Data on production of belg season crops are usually reported in local production measuring units that require conversion to an equivalent metric unit using the conversion factors available for local units at Wereda level prepared by CSA. The conversions factors have been constructed from experimentally derived data using actual holder production data associated with each local unit.

2.6 Data Processing

a. Editing, Coding and Verification

To insure the quality of the collected survey data an editing, coding, and verification instruction manual was written, and seventeen editors, data coders and verifiers were trained for one day to edit, code and verify the data using the aforementioned manual as a reference and teaching aid.

The enumerator completed, edited and coded questionnaires sent to the head office were thoroughly verified by trained verifiers on a 100% basis before the questionnaires were sent to data entry unit. The editing, coding, verification and data entry of all questionnaires was completed in thirty-one days.

b. Data Entry, Cleaning and Tabulation

Before starting data entry computer edit specifications were prepared for use on personal computers utilizing the Integrated Microcomputer Processing System (IMPS) Software for data consistency checking purposes.

The data on the coded questionnaires were then entered into the IMPS software on personal computers. The data was then checked and cleaned using the computer edit specifications prepared earlier for this purpose. Fifty-six data encoders were involved in this total process and it took fourteen days to complete the job. Finally, tabulation was done on personal computers to produce results as indicated in the tabulation plan.

2.7 Basic Concepts and Definitions

For better understanding and ultimate use of the data presented in this report, the definitions of concepts and terminology used for the collection of all types of data of the 2004/05 (1997 E.C.) Belg season Crop Production Sample survey are presented here below:-

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.

Household:- 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 unrelated persons, or a combination of both.

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

Holder:- A holder is a person who exercises management control over the operations of the agricultural 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 helps, 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.

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:- are those 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).

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

III. SUMMARY OF THE RESULTS OF THE 2004/05 (1997 E.C.) FARM MANAGEMENT PRACTICES OF BELG SEASON SURVEY

In this part of the report, the results of the 2004/05 (1997 E.C) Belg Season Crop Production Sample Survey on the extent and use of Belg season farm management practices are presented. The following are brief discussions on the major findings of the survey.

According to 2004/05 (1997 E.C) Belg Season Crop Production Sample Survey results, it was estimated that Belg season major crops covered 982.80 thousand hectares of land, where 3.85 million holders were engaged in the production activity. Of this total area under Belg season crops 378.19 thousand hectares (38.48%) was under the use of improved farm management practices in which 2,692.42 (70.00%) thousand agricultural holders reported for utilizing different agricultural inputs. Moreover, in 2004/05 (1997 E.C) it was estimated that a total of 84,401 quintals of commercial fertilizer was utilized for Belg season crop production.

**Summary Table A: Total Cropland Area and Number of holders engaged in
2004/05(1997 e.c.) belg season crop production activities**

• Belg crop Area ('000 ha)	982.80
• Number of Belg Crop Producing Holders (in million)	3.85
• Improved Farm Management practices ('000 ha)	378.19
• Number of holders reporting the use of farm management practices (in million)	2.70
• Quantity of commercial fertilizer applied ('000 qt.)	84.40

3.1 Total Area under Different Farm Management Practices

According to the 2004/05 (1997 E.C) Belg season Crop Production Sample Survey results, it was estimated that Belg season crops covered about 982.80 thousands hectares of land. Of this total, 378.19 hectares (38.48%) was under the use of improved farm management practices. Moreover, of the above mentioned total cropland area under improved farm inputs, 290.94 thousand hectares (76.93%) was under fertilizer (Both Natural and Commercial), 38.03 thousand hectares (10.06%) was under irrigation, 34.12 thousand hectares (9.02%) was treated with pesticides and 15.10 thousand hectares (3.99%) was under improved seeds. The coverage of the above mentioned farm management practices accounted for 29.60%, 3.87%, 3.47% and 1.53% of the total area under Belg season crops, respectively. (See Summary Table B).

Summary Table B. Total Area Under Improved Farm Management Practices For Belg Season Crops of Private Holdings in Ethiopia 2004/05 (1997 E.C.)

TYPE OF FARM MANAGEMENT PRACTICES	TOTAL AREA IN '000HA.	%	% FROM TOTAL BELG CROP AREA
IRRIGATION	38.03	10.06	3.87
IMPROVED SEEDS	15.10	3.99	1.53
FERTILIZER	290.94	76.93	29.60
PESTICIDES	34.12	9.02	3.47
TOTAL	378.19	100.00	38.47

The estimate of total cropland area under different farm management practices for Belg season crops of 2004/05 (1997 E.C) is presented in Summary Table C. As it is indicated in this summary Table, the highest proportion of cropland area under different farm management practices was reported to be covered by Cereals, which accounted for 796.49 thousand hectares (81.04%). Furthermore, about 176.64 thousand hectares (17.97%) was accounted for Belg Pulses and the remaining 9.67 thousands hectares (0.99%) was reported as Belg Oilseed crops.

Summary Table C. Total Area Under Improved Farm Management Practices for Belg Season Crops of Private Holdings in Ethiopia, 2004/05 (1997 E.C.)

CROP TYPE	TOTAL BELG CROP AREA		CROPLAND AREA UNDER IMP. FARM MANAGEMENT PRAC.	
	'000 HA.	%	'000 HA.	%
CEREALS	796.49	81.04	320.18	84.84
PULSES	176.64	17.97	56.42	14.95
OILSEEDS	9.67	0.99	0.80	0.21
GRAINS	982.80	100.00	377.40	100.00

In all most all Belg producing regions of the country, improved farm inputs were utilized for Belg crop production. As indicated in Summary Table D, the largest area under Belg season crops was reported by Oromia Region, covering 48.17% (473.16 thousand hectares). The second and third were S.N.N.P.R. and Amhara Regions with the coverage of 34.53% (339.34 thousand hectares) and 13.52% (132.91 thousand hectares) , respectively.

Summary Table D. Total Cropland Area Under Improved Farm Management Practices for Belg seasons crops of private Holdings in Ethiopia, 2004/05 (1997 E.C.)

REGION	TOTAL BELG CROP AREA		CROPLAND AREA UNDER FARM MANAGEMENT PRACTICES	
	'000 HA.	%	'000 HA.	%
Tigray	22.56	2.30	8.93	2.38
Afar	1.23	0.12	0.08	0.02
Amhara	132.91	13.52	45.30	12.07
Oromia	473.46	48.17	196.49	52.35
Somalie	11.61	1.18	0.51	0.14
Benshangul-Gumuz	1.16	0.12	-	-
S.N.N.P.R	339.34	34.53	123.60	32.93
Gambela	-	-	-	-
Harari	0.38	0.04	0.28	0.07
Addis Ababa	-	-	-	-
Dire Dawa	0.15	0.02	0.14	0.04
TOTAL	982.80	100.00	375.33	100.00

3.2 Total Cropland Area under Fertilizer by Type

The results of the survey indicate that belg season cropland area under both natural and commercial fertilizers were estimated to be 290.94 thousand hectares, covering 29.60% of the total area under Belg seasons crops of the private holdings. Of the total fertilized area 174.00 thousand hectares (59.81%) was reported to be under natural fertilizers. The coverage of commercial fertilizers was estimated to be 116.94 thousand hectares (40.19 %), constituting of 36.34% DAP, 1.52% UREA and 2.33% mixture of the two fertilizers (DAP+UREA). (For details see Summary Table E.)

Summary Table E: Total Cropland Area under Fertilizer by Type of Fertilizer for Private Holdings in Ethiopia, 2004/05 (1997 E.C.)

TYPE OF FERTILIZER	FERTILIZER APPLIED AREA IN		PERCENTAGE FROM TOTAL BELG CROP AREA
	'000 HA	%	
NATURAL	174.00	42.66	17.71
COMMERCIAL	116.94	28.67	29.60
DAP	105.74	25.92	10.76
UREA	4.43	1.09	0.45
DAP+UREA	6.77	1.66	0.69
TOTAL	407.88	100.00	59.21

3.3.1 Use of Natural Fertilizers

In general, the application of natural fertilizers for Belg season crops in 2004/05 (1997 E.C.), varies from crop to crop. Of the total area under fertilizer, the highest proportion was reported for maize crop, which was estimated at 86.49 thousand hectares (29.73 %). The fertilized area (natural fertilizer) under haricot beans was the second and estimated to be 27.80 thousand hectares (9.56%), while area under barley stood third i.e. 24.86 thousand hectares, 8.55% (see Table 2.1).

3.3.2 Use of Commercial Fertilizers

Out of the total land area under commercial fertilizers in 2004/05 (1997 E.C) Belg season, the area under DAP was the highest which accounted for 25.92% while the mix of the two fertilizers (DAP+UREA) and UREA were covering 1.66 % and 1.09 % of the Belg crop area, respectively (see Fig 3.)

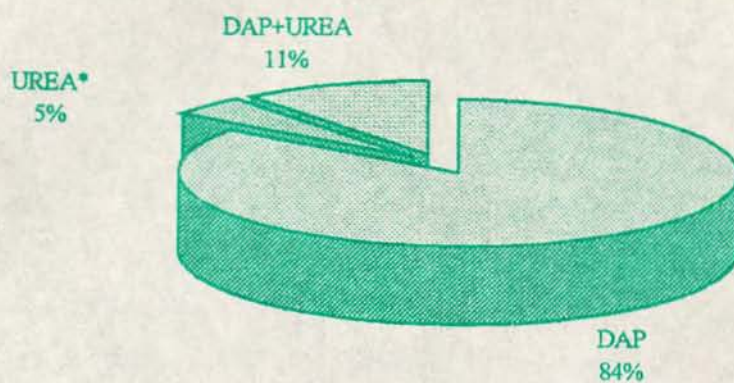
Similarly, the application of commercial fertilizers varied from crop to crop. Of the total area under commercial fertilizers the highest area was reported for barley at 50.04 thousand hectares (42.79%). The second highest area reported under commercial fertilizers was for maize i.e. 26.43 thousand hectares (22.60%).

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 Oromia Region, which accounted for 142,858 hectares (49.10% of the total), S.N.N.P and Amhara Regions were the second and third to report the highest area under both (Natural and Commercial) fertilizers which were estimated to be 106,813 hectares (36.71%) and 34,633 hectares (11.90%), respectively.

3.4 Total Quantity of Commercial Fertilizer Applied by Type

In 2004/05 (1997 E.C.) the total quantity of commercial fertilizer used for Belg season crop production was estimated at 84,401 quintals. Of this total, the share of DAP was the highest accounting for 84.70% (71,490 quintals). The mixture of the two types of fertilizers (DAP+UREA) was the second highest accounting for 10.72% (9,047 quintals). The last was the share of the Urea, which accounted for 4.58% (3,864 quintals) (See Fig 1).

Figure 1. Estimates of total quantity of commercial fertilizer applied by type for Belg season crops of private holdings in Ethiopia, 2004/2005(1997 E.C.)



Note

- * The value of UREA has got a high coefficient of variation, therefore, users are advised to use the estimate with caution.

National and Regional Statistical Tables

Table 1: Number of Holders, Inputs Applied Area and Quantity of Inputs used

Ethiopia

Crop type	All crop land Area	All Fertilizer		Natural		DAP		
		Hectare	Quintal	Holder	Hectare	Holder	Hectare	Quintal
Grain Crops	982797	290940	84401	1724308	173999	396209	105742	71490
Cereals	796488	237739	67903	1616115	138968	331463	89696	57274
Teff	97886	14982	1775	74758	10167	19063	3367	1175
Barley	159348	74896	30199	203215	24857	125361	48843	29489
Wheat	59257	20135	*	48293	5179	38990	*	*
Maize	408649	112923	24561	1346629	86491	189027	20794	16130
Sorghum	57843	11626	963	97380	10887	4757	345	*
Finger millet	1620	544	*	6186	501	*	*	*
Oats/ 'Aja'	11784	2625	563	13625	887	10861	1718	548
Rice	*	*	*	*	*	*	*	*
Pulse	176636	52401	16151	826322	34332	190130	15953	13869
Horse/Faba beans	2158	248	*	15806	217	*	*	*
Field peas	20682	2967	392	23183	1928	4926	961	*
Haricot beans	125385	44585	15612	772186	27797	185389	14953	13564
Chick peas	13508	2849	-	23773	2849	-	-	-
Lentiles	12290	1345	*	15045	1151	*	*	*
Vetch/Grass peas	*	330	-	5965	330	-	-	-
Soya beans	*	*	*	*	*	*	*	*
Fenugreek	*	46	*	3558	42	-	-	-
Gibto	*	*	-	*	*	-	-	-
Oile seeds	9672	800	*	24468	699	2629	*	*
Nueg	*	*	-	*	*	-	-	-
Linseed	5768	32	-	3020	32	-	-	-
Ground nuts	*	*	*	4870	*	*	*	*
Safflower	312	36	-	2553	36	-	-	-
Sesame	*	*	-	*	*	-	-	-
Rapeseed	336	235	*	13378	155	2307	*	*

Ethiopia

Table 1(Cont'd)

Crop type	UREA			UREA + DAP			Indigenous seed		
	Holder	Hectare	Quintal	Holder	Hectare	Quintal	Holder	Hectare	Quintal
Grain Crops	29014	4429	3864	53759	6770	9047	3840258	967696	691390
Cereals	25649	3750	3101	44017	5325	7528	3549509	781623	572843
Teff	*	*	*	3188	361	224	362158	97765	33582
Barley	3181	*	*	9011	766	522	693581	159262	272096
Wheat	*	*	*	*	*	*	233051	58192	101551
Maize	18650	1800	*	34083	3837	6144	2770230	395107	140999
Sorghum	*	*	*	1697	*	*	266396	57793	8491
Finger millet	-	-	-	*	*	*	16312	1620	393
Oats/ 'Aja'	-	-	-	*	*	*	81064	11784	15707
Rice	-	-	-	-	-	-	1596	*	*
Pulse	12483	670	763	21665	1446	1519	1940296	176401	114623
Horse/Faba beans	*	*	*	*	*	*	52175	2158	1635
Field peas	-	-	-	*	*	*	138959	20682	20589
Haricot beans	12483	509	723	20277	1326	1324	1716186	125253	66705
Chick peas	-	-	-	-	-	-	88421	13417	9043
Lentiles	*	*	*	*	*	*	95980	12290	10729
Vetch/Grass peas	-	-	-	-	-	-	25234	*	*
Soya beans	-	-	-	*	*	*	*	*	*
Fenugreek	-	-	-	*	*	*	12387	*	350
Gibto	-	-	-	-	-	-	*	*	*
Oile seeds	*	*	-	-	-	-	83828	9672	3924
Nueg	-	-	-	-	-	-	*	*	*
Linseed	-	-	-	-	-	-	22307	5768	2727
Ground nuts	-	-	-	-	-	-	21176	*	*
Safflower	-	-	-	-	-	-	13001	312	35
Sesame	-	-	-	-	-	-	4917	*	*
Rapeseed	*	*	-	-	-	-	23283	336	*

Ethiopia**Table 1(Cont'd)**

Crop type	Improved seed			Pesticide		Irrigation		Extension package	
	Holder	Hectare	Quintal	Holder	Hectare	Holder	Hectare	Holder	Hectare
Grain Crops	94965	15101	5555	97178	34115	300989	38029	258810	67618
Cereals	90807	14866	5464	90565	33311	286397	34268	238119	58756
Teff	*	*	*	31685	11081	12763	2188	23483	7566
Barley	1304	*	*	41459	10924	25298	2535	62125	15847
Wheat	3577	*	*	19842	7480	5993	408	23875	*
Maize	85150	13542	3307	17170	2088	247583	28466	154564	21583
Sorghum	*	*	*	*	*	4145	338	8462	2390
Finger millet	*	*	-	-	-	*	*	-	-
Oats/ 'Aja'	-	-	-	7993	1486	*	*	-	-
Rice	-	-	-	-	-	*	*	*	*
Pulse	7442	235	90	8720	804	52257	2978	92140	7436
Horse/Faba beans	-	-	-	-	-	*	*	-	-
Field peas	-	-	-	-	-	*	*	5547	529
Haricot beans	6908	132	61	7983	557	36141	1272	77393	5536
Chick peas	*	*	*	*	*	5078	*	4601	525
Lentiles	-	-	-	*	*	3885	491	10281	846
Vetch/Grass peas	-	-	-	-	-	4572	*	-	-
Soya beans	*	*	*	-	-	*	*	-	-
Fenugreek	-	-	-	-	-	2714	*	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	*	*	*	*	*	*
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	*	*	*	*
Ground nuts	-	-	-	-	-	-	-	*	*
Safflower	-	-	-	*	*	*	*	-	-
Sesame	-	-	-	-	-	*	*	*	*
Rapeseed	-	-	-	-	-	*	*	*	*

Table 1.1: Number of Holders, Inputs Applied Area and Quantity of Inputs used

Tigray Region

Crop type	All crop land Area	All Fertilizer		Natural		DAP		
		Hectare	Quintal	Holder	Hectare	Holder	Hectare	Quintal
Grain Crops	22556	5604	*	26672	4628	1177	65	*
Cereals	22196	5345	*	25761	4491	1043	*	*
Teff	14885	2467	-	6797	2467	-	-	-
Barley	1302	754	*	7839	676	*	*	*
Wheat	*	*	*	*	*	-	-	-
Maize	4342	1559	*	11831	819	*	*	*
Sorghum	*	*	-	*	*	-	-	-
Finger millet	*	*	*	*	*	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-
Pulse	329	*	*	*	*	*	*	*
Horse/Faba beans	*	*	*	-	-	-	-	-
Field peas	*	*	*	*	*	*	*	*
Haricot beans	-	-	-	-	-	-	-	-
Chick peas	*	*	-	*	*	-	-	-
Lentiles	*	*	*	*	*	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-
Fenugreek	*	*	*	*	*	-	-	-
Gibto	-	-	-	-	-	-	-	-
Oile seeds	*	*	-	*	*	-	-	-
Nueg	-	-	-	-	-	-	-	-
Linseed	*	*	-	*	*	-	-	-
Ground nuts	-	-	-	-	-	-	-	-
Safflower	*	*	-	*	*	-	-	-
Sesame	-	-	-	-	-	-	-	-
Rapeseed	*	-	-	-	-	-	-	-

Tigray Region
Table 1.1(Cont'd)

Crop type	UREA			UREA + DAP			Indigenous seed		
	Holder	Hectare	Quintal	Holder	Hectare	Quintal	Holder	Hectare	Quintal
Grain Crops	694	*	*	7387	874	*	69387	22365	10904
Cereals	694	*	*	6186	*	*	67158	22005	10426
Teff	-	-	-	-	-	-	26982	14817	3852
Barley	*	*	*	1032	*	*	14017	1297	2798
Wheat	-	-	-	*	*	*	*	*	*
Maize	*	*	*	*	*	*	31123	4274	2393
Sorghum	-	-	-	-	-	-	*	*	*
Finger millet	-	-	-	*	*	*	*	*	*
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-	-
Pulse	-	-	-	*	*	*	3811	329	*
Horse/Faba beans	-	-	-	*	*	*	*	*	*
Field peas	-	-	-	*	*	*	*	*	*
Haricot beans	-	-	-	-	-	-	-	-	-
Chick peas	-	-	-	-	-	-	*	*	*
Lentiles	-	-	-	*	*	*	*	*	*
Vetch/Grass peas	-	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	*	*	*	*	*	*
Gibto	-	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	-	-	-	*	*	*
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	*	*	*
Ground nuts	-	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	*	*	*
Sesame	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	*	*	-

Tigray Region Table 1.1(Cont'd)

Crop type	Improved seed			Pesticide		Irrigation		Extension package	
	Holder	Hectare	Quintal	Holder	Hectare	Holder	Hectare	Holder	Hectare
Grain Crops	1759	191	*	*	*	25343	3133	31143	7905
Cereals	1759	191	*	*	*	22711	2854	30111	7673
Teff	*	*	*	*	*	*	*	*	4809
Barley	*	*	*	*	*	3083	210	6638	661
Wheat	*	*	*	-	-	*	*	*	*
Maize	*	*	*	*	*	19191	1664	16460	1578
Sorghum	-	-	-	*	*	*	*	*	*
Finger millet	-	-	-	-	-	*	*	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-	-
Pulse	-	-	-	-	-	3237	278	*	*
Horse/Faba beans	-	-	-	-	-	*	*	-	-
Field peas	-	-	-	-	-	*	*	*	*
Haricot beans	-	-	-	-	-	-	-	-	-
Chick peas	-	-	-	-	-	*	*	*	*
Lentiles	-	-	-	-	-	*	*	*	*
Vetch/Grass peas	-	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	*	*	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	-	-	*	*	*	*
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	*	*
Ground nuts	-	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	*	*	-	-
Sesame	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	*	*	-	-

Table 1.2: Number of Holders,Inputs Applied Area and Quantity of Inputs used

Afar Region

Crop type	All crop land Area	All Fertilizer		Natural		DAP		
		Hectare	Quintal	Holder	Hectare	Holder	Hectare	Quintal
Grain crops	1226	76	-	337	76	-	-	-
Cereals	1144	*	-	*	*	-	-	-
Teff	371	*	-	*	*	-	-	-
Barley	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-
Maize	*	-	-	-	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-
Finger millet	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-
Pulse	69	*	-	*	*	-	-	-
Horse/Faba beans	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-
Haricot beans	*	-	-	-	-	-	-	-
Chick peas	50	*	-	*	*	-	-	-
Lentiles	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-
Oile seeds	*	-	-	-	-	-	-	-
Nueg	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-
Sesame	*	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-

Afar Region**Table 1.2(Cont'd)**

Crop type	UREA			UREA + DAP			Indigenous seed		
	Holder	Hectare	Quintal	Holder	Hectare	Quintal	Holder	Hectare	Quintal
Grain Crops	-	-	-	-	-	-	1959	663	248
Cereals	-	-	-	-	-	-	1912	581	209
Teff	-	-	-	-	-	-	1633	371	99
Barley	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-
Maize	-	-	-	-	-	-	*	*	*
Sorghum	-	-	-	-	-	-	-	-	-
Finger millet	-	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-	-
Pulse	-	-	-	-	-	-	417	69	37
Horse/Faba beans	-	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-	-
Haricot beans	-	-	-	-	-	-	*	*	*
Chick peas	-	-	-	-	-	-	259	50	29
Lentiles	-	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	-	-	-	*	*	*
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	*	*	*
Rapeseed	-	-	-	-	-	-	-	-	-

Afar Region
Table 1.2(Cont'd)

Crop type	Improved seed			Pesticide		Irrigation		Extension package	
	Holder	Hectare	Quintal	Holder	Hectare	Holder	Hectare	Holder	Hectare
Grain Crops	*	*	*	*	*	*	*	*	*
Cereals	*	*	*	*	*	*	*	*	*
Teff	-	-	-	*	*	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-
Maize	*	*	*	-	-	*	*	*	*
Sorghum	-	-	-	-	-	-	-	-	-
Finger millet	-	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-	-
Pulse	-	-	-	-	-	-	-	-	-
Horse/Faba beans	-	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-	-
Haricot beans	-	-	-	-	-	-	-	-	-
Chick peas	-	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	-	-	*	*	*	*
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	*	*	*	*
Rapeseed	-	-	-	-	-	-	-	-	-

Table 1.3: Number of Holders, Inputs Applied Area and Quantity of Inputs used

Amhara Region

Crop type	All crop land Area	All Fertilizer		Natural		DAP		
		Hectare	Quintal	Holder	Hectare	Holder	Hectare	Quintal
Grain Crops	132908	34633	*	228099	32410	12650	1095	*
Cereals	93864	27661	*	212732	25720	12650	1079	*
Teff	23534	6804	*	53420	5920	*	*	*
Barley	45690	12043	*	87339	11799	*	*	*
Wheat	9624	1993	-	26490	1993	-	-	-
Maize	12035	6204	*	77474	5390	10995	*	*
Sorghum	*	*	-	*	*	-	-	-
Finger millet	*	*	-	*	*	-	-	-
Oats/ 'Aja'	1725	482	-	7706	482	-	-	-
Rice	*	*	-	*	*	-	-	-
Pulse	38748	6901	*	53924	6636	-	-	-
Horse/Faba beans	*	*	-	*	*	-	-	-
Field peas	2842	*	-	4381	*	-	-	-
Haricot beans	*	*	*	19991	*	-	-	-
Chick peas	11910	2733	-	22675	2733	-	-	-
Lentiles	8979	1079	*	11255	919	-	-	-
Vetch/Grass peas	*	329	-	5681	329	-	-	-
Soya beans	-	-	-	-	-	-	-	-
Fenugreek	*	*	-	1952	*	-	-	-
Gibto	-	-	-	-	-	-	-	-
Oile seeds	*	70	*	3409	*	*	*	*
Nueg	*	-	-	-	-	-	-	-
Linseed	*	*	-	*	*	-	-	-
Ground nuts	-	-	-	-	-	-	-	-
Safflower	*	*	-	*	*	-	-	-
Sesame	-	-	-	-	-	-	-	-
Rapeseed	*	*	*	*	*	*	*	*

Amhara Region Table 1.3(Cont'd)

Crop type	UREA			UREA + DAP			Indigenous seed		
	Holder	Hectare	Quintal	Holder	Hectare	Quintal	Holder	Hectare	Quintal
Grain Crops	*	*	*	-	-	-	479508	132736	131618
Cereals	*	*	*	-	-	-	433526	93783	97288
Teff	*	*	*	-	-	-	133801	23534	5696
Barley	-	-	-	-	-	-	191047	45690	71986
Wheat	-	-	-	-	-	-	68683	9590	13223
Maize	*	*	*	-	-	-	145565	11996	3944
Sorghum	-	-	-	-	-	-	*	*	*
Finger millet	-	-	-	-	-	-	*	*	*
Oats/ 'Aja'	-	-	-	-	-	-	20892	1725	2410
Rice	-	-	-	-	-	-	*	*	-
Pulse	*	*	*	-	-	-	174155	38656	33755
Horse/Faba beans	-	-	-	-	-	-	*	*	*
Field peas	-	-	-	-	-	-	30021	2842	3987
Haricot beans	*	*	*	-	-	-	58839	*	*
Chick peas	-	-	-	-	-	-	75293	11818	7454
Lentiles	*	*	*	-	-	-	60737	8979	9462
Vetch/Grass peas	-	-	-	-	-	-	22642	*	*
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	5304	*	*
Gibto	-	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	-	-	-	7348	*	*
Nueg	-	-	-	-	-	-	*	*	*
Linseed	-	-	-	-	-	-	4126	*	*
Ground nuts	-	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	*	*	*
Sesame	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	*	*	*

Amhara Region Table 1.3(Cont'd)

Crop type	Improved seed			Pesticide		Irrigation		Extension package	
	Holder	Hectare	Quintal	Holder	Hectare	Holder	Hectare	Holder	Hectare
Grain Crops	*	*	*	6044	618	103037	10046	57007	9619
Cereals	*	*	*	5575	404	97100	8866	52624	7933
Teff	-	-	-	*	*	10825	*	*	*
Barley	-	-	-	1755	116	19546	2118	28334	4752
Wheat	*	*	*	*	*	5058	*	*	*
Maize	*	*	*	*	*	66471	5056	19580	2014
Sorghum	*	*	-	-	-	*	*	-	-
Finger millet	-	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	*	*	-	-
Rice	-	-	-	-	-	*	*	-	-
Pulse	*	*	*	*	*	13903	1177	14947	1680
Horse/Faba beans	-	-	-	-	-	*	*	-	-
Field peas	-	-	-	-	-	*	*	*	*
Haricot beans	-	-	-	*	*	*	*	*	*
Chick peas	*	*	*	*	*	3796	*	4413	522
Lentiles	-	-	-	-	-	*	*	*	*
Vetch/Grass peas	-	-	-	-	-	*	*	-	-
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	*	*	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oil seeds	-	-	-	-	-	*	*	*	*
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	*	*
Ground nuts	-	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	*	*	-	-

Table 1.4: Number of Holders, Inputs Applied Area and Quantity of Inputs used

Oromia Region

Crop type	All crop land Area	All Fertilizer		Natural		DAP		
		Hectare	Quintal	Holder	Hectare	Holder	Hectare	Quintal
Grain Crops	473461	142858	53700	560147	64030	165896	74384	47055
Cereals	394476	127551	50159	517858	52100	161715	71327	43885
Teff	41305	3544	*	6569	1115	*	*	*
Barley	98584	58306	29314	71426	9874	116511	47913	29070
Wheat	47095	17851	*	18969	3002	38751	*	*
Maize	179159	41381	9039	432698	33973	32508	4993	3792
Sorghum	18154	4277	*	42054	3681	*	*	*
Finger millet	*	*	-	*	*	-	-	-
Oats/ 'Aja'	10053	2139	563	5270	*	10861	1718	548
Rice	*	-	-	*	-	-	-	-
Pulse	71121	14851	3249	294945	11557	25671	2984	2877
Horse/Faba beans	767	*	-	2035	*	-	-	-
Field peas	16480	2250	*	11318	1301	4792	949	*
Haricot beans	48720	12278	2970	283752	9955	21301	2012	2598
Chick peas	1323	*	-	*	*	-	-	-
Lentiles	3181	*	*	2346	*	*	*	*
Vetch/Grass peas	*	-	-	-	-	-	-	-
Soya beans	*	-	-	-	-	-	-	-
Fenugreek	*	*	-	*	*	-	-	-
Gibto	*	*	-	*	*	-	-	-
Oile seeds	7864	*	*	9934	*	*	*	*
Nueg	*	*	-	*	*	-	-	-
Linseed	5474	*	-	*	*	-	-	-
Ground nuts	*	*	*	*	*	*	*	*
Safflower	*	*	-	*	*	-	-	-
Sesame	*	-	-	-	-	-	-	-
Rapeseed	244	*	*	*	*	*	*	*

Oromia Region Table 1.4(Cont'd)

Crop type	UREA			UREA + DAP			Indigenous seed		
	Holder	Hectare	Quintal	Holder	Hectare	Quintal	Holder	Hectare	Quintal
Grain Crops	12382	2363	*	11958	2082	*	1631700	470188	423164
Cereals	11943	2279	*	10381	1846	*	1505802	391245	367522
Teff	*	*	*	*	*	*	128677	41260	16753
Barley	*	*	*	*	*	*	366248	98519	185304
Wheat	*	*	*	*	*	*	146949	46126	85229
Maize	8384	*	*	8899	*	*	1134988	177007	65272
Sorghum	*	*	*	*	*	*	102285	18154	1643
Finger millet	-	-	-	-	-	-	*	*	*
Oats/ 'Aja'	-	-	-	*	*	*	59207	10053	13296
Rice	-	-	-	-	-	-	*	*	*
Pulse	3054	75	*	3217	236	154	730062	71079	52986
Horse/Faba beans	-	-	-	-	-	-	14410	767	*
Field peas	-	-	-	-	-	-	82258	16480	15675
Haricot beans	3054	75	*	3217	236	154	641410	48678	33658
Chick peas	-	-	-	-	-	-	10509	1323	*
Lentiles	-	-	-	-	-	-	30788	3181	1188
Vetch/Grass peas	-	-	-	-	-	-	*	*	*
Soya beans	-	-	-	-	-	-	*	*	*
Fenugreek	-	-	-	-	-	-	*	*	*
Gibto	-	-	-	-	-	-	*	*	*
Oile seeds	*	*	-	-	-	-	42230	7864	2657
Nueg	-	-	-	-	-	-	*	*	*
Linseed	-	-	-	-	-	-	14902	5474	2573
Ground nuts	-	-	-	-	-	-	*	*	*
Safflower	-	-	-	-	-	-	*	*	*
Sesame	-	-	-	-	-	-	*	*	*
Rapeseed	*	*	-	-	-	-	16771	244	34

Oromia Region Table 1.4(Cont'd)

Crop type	Improved seed			Pesticide		Irrigation		Extension package	
	Holder	Hectare	Quintal	Holder	Hectare	Holder	Hectare	Holder	Hectare
Grain Crops	17098	3273	2451	73811	29777	152557	20580	96461	35163
Cereals	14425	3231	2427	70286	29396	147178	18694	90948	30948
Teff	*	*	*	23249	8524	-	-	6047	*
Barley	*	*	*	36147	10225	*	199	25782	10240
Wheat	*	*	*	18756	7435	*	*	*	*
Maize	10647	2152	566	11492	1642	143749	18333	57244	7669
Sorghum	-	-	-	*	*	*	*	2145	*
Finger millet	-	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	7993	1486	*	*	-	-
Rice	-	-	-	-	-	-	-	-	-
Pulse	3326	*	*	4231	*	28262	1119	39111	2842
Horse/Faba beans	-	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	*	*
Haricot beans	3326	*	*	3963	*	26846	820	38870	2666
Chick peas	-	-	-	-	-	*	*	-	-
Lentiles	-	-	-	*	*	*	*	*	*
Vetch/Grass peas	-	-	-	-	-	*	*	-	-
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	-	-	*	*	*	*
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	*	*	*	*
Ground nuts	-	-	-	-	-	-	-	*	*
Safflower	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	*	*	*	*

Table 1.5: Number of Holders, Inputs Applied Area and Quantity of Inputs used

Somale Region

Crop type	All crop land Area	All Fertilizer		Natural		DAP		
		Hectare	Quintal	Holder	Hectare	Holder	Hectare	Quintal
Grain Crops	11608	229	-	2648	229	-	-	-
Cereals	11078	190	-	2466	190	-	-	-
Teff	-	-	-	-	-	-	-	-
Barley	*	-	-	-	-	-	-	-
Wheat	*	-	-	-	-	-	-	-
Maize	10331	176	-	2410	176	-	-	-
Sorghum	476	14	-	198	14	-	-	-
Finger millet	*	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-
Pulse	465	*	-	*	*	-	-	-
Horse/Faba beans	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-
Haricot beans	465	*	-	*	*	-	-	-
Chick peas	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-
Oile seeds	64	-	-	-	-	-	-	-
Nueg	*	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-
Ground nuts	*	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-
Sesame	*	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-

Somale Region
Table 1.5(Cont'd)

Crop type	UREA			UREA + DAP			Indigenous seed		
	Holder	Hectare	Quintal	Holder	Hectare	Quintal	Holder	Hectare	Quintal
Grain Crops	-	-	-	-	-	-	21230	11559	3683
Cereals	-	-	-	-	-	-	20953	11030	3563
Teff	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	*	*	*
Wheat	-	-	-	-	-	-	*	*	*
Maize	-	-	-	-	-	-	20556	10283	3355
Sorghum	-	-	-	-	-	-	1710	476	104
Finger millet	-	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-	-
Pulse	-	-	-	-	-	-	3584	465	114
Horse/Faba beans	-	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-	-
Haricot beans	-	-	-	-	-	-	3584	465	114
Chick peas	-	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	-	-	-	323	64	*
Nueg	-	-	-	-	-	-	*	*	*
Linseed	-	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	*	*	*
Safflower	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	*	*	*
Rapeseed	-	-	-	-	-	-	-	-	-

Somale Region Table 1.5(Cont'd)

Crop type	Improved seed			Pesticide		Irrigation		Extension package	
	Holder	Hectare	Quintal	Holder	Hectare	Holder	Hectare	Holder	Hectare
Grain Crops	*	*	*	*	*	2259	278	*	*
Cereals	*	*	*	*	*	2259	278	*	*
Teff	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	*	*	-	-
Wheat	-	-	-	-	-	-	-	-	-
Maize	*	*	*	*	*	2066	226	*	*
Sorghum	-	-	-	-	-	575	43	-	-
Finger millet	*	*	-	-	-	*	*	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-	-
Pulse	*	*	*	-	-	*	*	-	-
Horse/Faba beans	-	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-	-
Haricot beans	*	*	*	-	-	*	*	-	-
Chick peas	-	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	-	-	-	-	-	-
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-

Table 1.6: Number of Holders, Inputs Applied Area and Quantity of Inputs used

Benshangul-Gumuz Region

Crop type	All crop land Area	All Fertilizer		Natural		DAP		
		Hectare	Quintal	Holder	Hectare	Holder	Hectare	Quintal
Grain Crops	1161	*	*	3357	*	-	-	-
Cereals	800	*	*	3247	*	-	-	-
Teff	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-
Maize	796	*	*	3247	*	-	-	-
Sorghum	*	-	-	-	-	-	-	-
Finger millet	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-
Pulse	359	110	-	3269	110	-	-	-
Horse/Faba beans	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-
Haricot beans	359	110	-	3269	110	-	-	-
Chick peas	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-
Oile seeds	*	-	-	-	-	-	-	-
Nueg	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-
Rapeseed	*	-	-	-	-	-	-	-

Benshangul-Gumuz Region Table 1.6(Cont'd)

Crop type	UREA			UREA + DAP			Indigenous seed		
	Holder	Hectare	Quintal	Holder	Hectare	Quintal	Holder	Hectare	Quintal
Grain Crops	*	*	*	-	-	-	10480	1161	261
Cereals	*	*	*	-	-	-	10278	800	164
Teff	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-
Maize	*	*	*	-	-	-	10278	796	164
Sorghum	-	-	-	-	-	-	*	*	-
Finger millet	-	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-	-
Pulse	-	-	-	-	-	-	9864	359	97
Horse/Faba beans	-	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-	-
Haricot beans	-	-	-	-	-	-	9864	359	97
Chick peas	-	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	-	-	-	*	*	-
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	*	*	-

Benshangul-Gumuz Region**Table 1.6(Cont'd)**

Crop type	Improved seed			Pesticide		Irrigation		Extension package	
	Holder	Hectare	Quintal	Holder	Hectare	Holder	Hectare	Holder	Hectare
Grain Crops	-	-	-	-	-	*	*	-	-
Cereals	-	-	-	-	-	*	*	-	-
Teff	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-
Maize	-	-	-	-	-	*	*	-	-
Sorghum	-	-	-	-	-	-	-	-	-
Finger millet	-	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-	-
Pulse	-	-	-	-	-	*	*	-	-
Horse/Faba beans	-	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-	-
Haricot beans	-	-	-	-	-	*	*	-	-
Chick peas	-	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	-	-	-	-	-	-
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-

**Table 1.7: Number of Holders, Inputs Applied Area and Quantity of Inputs used
(S.N.N.P.R) Region**

Crop type	All crop land Area	All Fertilizer		Natural		DAP		
		Hectare	Quintal	Holder	Hectare	Holder	Hectare	Quintal
Grain Crops	339344	106813	27812	899973	71921	216437	30191	23429
Cereals	272524	76415	15237	850708	55907	156006	17231	12446
Teff	17792	2102	677	7684	600	12698	1242	475
Barley	13726	3793	771	36611	2507	7446	667	362
Wheat	1668	257	43	2691	*	239	70	36
Maize	200991	63206	13496	816633	45743	144573	15110	11516
Sorghum	36866	6620	*	51790	6484	2576	*	42
Finger millet	1394	428	*	5017	396	*	*	*
Oats/ 'Aja'	*	*	..	*	*	-	-	-
Rice	*	*	*	-	-	*	*	*
Pulse	65453	30165	12570	470315	15783	164275	12956	10978
Horse/Faba beans	1239	181	*	12668	167	*	*	*
Field peas	1220	226	-	6767	226	-	-	-
Haricot beans	62741	29717	12539	462866	15363	164038	12940	10959
Chick peas	134	*	-	*	*	-	-	-
Lentiles	70	*	-	*	*	-	-	-
Vetch/Grass peas	*	*	-	*	*	-	-	-
Soya beans	*	*	*	*	*	*	*	*
Fenugreek	15	*	-	1123	*	-	-	-
Gibto	-	-	-	-	-	-	-	-
Oile seeds	1367	234	*	10683	230	*	*	*
Nueg	-	-	-	-	-	-	-	-
Linseed	35	12	-	1487	12	-	-	-
Ground nuts	*	*	-	3744	*	-	-	-
Safflower	309	34	-	1959	34	-	-	-
Sesame	115	*	-	*	*	-	-	-
Rapeseed	*	*	*	*	*	*	*	*

(S.N.N.P.R) Region Table 1.7(Cont'd)

Crop type	UREA			UREA + DAP			Indigenous seed		
	Holder	Hectare	Quintal	Holder	Hectare	Quintal	Holder	Hectare	Quintal
Grain Crops	11921	890	865	34368	3811	3518	1620829	328497	121419
Cereals	8996	564	445	27404	2712	2346	1504815	261779	93622
Teff	*	*	*	2886	252	194	71065	17783	7181
Barley	*	*	*	7060	595	394	121736	13709	11987
Wheat	*	*	*	-	-	-	12287	1656	1856
Maize	8507	519	415	19725	1833	1566	1423318	190319	65722
Sorghum	*	*	-	1178	*	*	149146	36829	6508
Finger millet	-	-	-	-	-	-	13460	1394	346
Oats/ 'Aja'	-	-	-	-	-	-	*	*	*
Rice	-	-	-	-	-	-	871	*	*
Pulse	8563	326	421	17067	1099	1171	1016147	65352	27126
Horse/Faba beans	*	*	*	-	-	-	35409	1239	779
Field peas	-	-	-	-	-	-	24754	1220	674
Haricot beans	8563	326	420	17014	1089	1161	1000073	62652	25611
Chick peas	-	-	-	-	-	-	1687	134	36
Lentiles	-	-	-	-	-	-	3700	70	19
Vetch/Grass peas	-	-	-	-	-	-	*	*	*
Soya beans	-	-	-	*	*	*	125	*	*
Fenugreek	-	-	-	-	-	-	1861	15	2
Gibto	-	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	-	-	-	32780	1367	*
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	2849	35	4
Ground nuts	-	-	-	-	-	-	12836	*	*
Safflower	-	-	-	-	-	-	12311	309	34
Sesame	-	-	-	-	-	-	2897	115	14
Rapeseed	-	-	-	-	-	-	*	*	*

(S.N.N.P.R) Region**Table 1.7(Cont'd)**

Crop type	Improved seed			Pesticide		Irrigation		Extension package	
	Holder	Hectare	Quintal	Holder	Hectare	Holder	Hectare	Holder	Hectare
Grain Crops	73591	10847	2682	15481	3110	12134	2826	72485	14132
Cereals	72167	10746	2633	12863	2901	11488	2496	62722	11441
Teff	*	*	*	4635	2032	*	*	570	87
Barley	*	*	*	3382	*	-	-	1372	194
Wheat	*	*	*	*	*	-	-	62	*
Maize	71804	10672	2595	4900	277	10663	2113	59712	9583
Sorghum	*	*	*	*	*	1097	*	5371	1498
Finger millet	-	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	*	*	*	*
Pulse	3627	102	48	3682	209	4738	*	34591	2686
Horse/Faba beans	-	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	*	*
Haricot beans	3521	89	36	3682	209	4580	*	34000	2669
Chick peas	-	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	*	*
Vetch/Grass peas	-	-	-	-	-	-	-	-	-
Soya beans	*	*	*	-	-	*	*	-	-
Fenugreek	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	*	*	-	-	*	*
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	-	*	*
Safflower	-	-	-	*	*	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	*	*

Table 1.8: Number of Holders, Inputs Applied Area and Quantity of Inputs used

Harari Region

Crop type	All crop land Area	All Fertilizer		Natural		DAP		
		Hectare	Quintal	Holder	Hectare	Holder	Hectare	Quintal
Grain Crops	379	280	*	1534	262	*	*	*
Cereals	254	176	*	1512	164	*	*	*
Teff	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-
Maize	109	79	*	1078	74	*	*	*
Sorghum	145	97	*	833	90	*	*	*
Finger millet	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-
Pulse	89	72	*	1481	66	*	*	*
Horse/Faba beans	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-
Haricot beans	89	72	*	1481	66	*	*	*
Chick peas	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-
Oile seeds	*	*	-	*	*	-	-	-
Nueg	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-
Ground nuts	*	*	-	*	*	-	-	-
Safflower	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-

Harari Region

Table 1.8(Cont'd)

Crop type	UREA			UREA + DAP			Indigenous seed		
	Holder	Hectare	Quintal	Holder	Hectare	Quintal	Holder	Hectare	Quintal
Grain Crops	*	*	*	*	*	*	2317	379	47
Cereals	*	*	*	*	*	*	2274	254	*
Teff	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-
Maize	*	*	*	*	*	*	1693	109	*
Sorghum	*	*	*	*	*	*	1296	145	-
Finger millet	-	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-	-
Pulse	*	*	*	*	*	*	2089	89	42
Horse/Faba beans	-	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-	-
Haricot beans	*	*	*	*	*	*	2089	89	42
Chick peas	-	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	-	-	-	*	*	-
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	*	*	-
Safflower	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-

Harari Region

Table 1.8(Cont'd)

Crop type	Improved seed			Pesticide		Irrigation		Extension package	
	Holder	Hectare	Quintal	Holder	Hectare	Holder	Hectare	Holder	Hectare
Grain Crops	-	-	-	-	-	-	-	*	78
Cereals	-	-	-	-	-	-	-	*	53
Teff	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-
Maize	-	-	-	-	-	-	-	*	*
Sorghum	-	-	-	-	-	-	-	*	*
Finger millet	-	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-	-
Pulse	-	-	-	-	-	-	-	*	*
Horse/Faba beans	-	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-	-
Haricot beans	-	-	-	-	-	-	-	*	*
Chick peas	-	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	-	-	-	-	-	-
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-

Table 1.9: Number of Holders, Inputs Applied Area and Quantity of Inputs used

Dire Da wa Region

Crop type	All crop land Area	All Fertilizer		Natural		DAP		
		Hectare	Quintal	Holder	Hectare	Holder	Hectare	Quintal
Grain Crops	154	65	*	1542	64	-	-	-
Cereals	151	64	*	1542	63	-	-	-
Teff	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-
Maize	112	48	*	1258	48	-	-	-
Sorghum	38	*	*	451	*	-	-	-
Finger millet	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-
Rice	*	-	-	-	-	-	-	-
Pulse	3	*	-	*	*	-	-	-
Horse/Faba beans	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-
Haricot beans	3	*	-	*	*	-	-	-
Chick peas	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	-	-	-	-	-
Nueg	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-

Dire Da wa Region Table 1.9(Cont'd)

Crop type	UREA			UREA + DAP			Indigenous seed		
	Holder	Hectare	Quintal	Holder	Hectare	Quintal	Holder	Hectare	Quintal
Grain Crops	*	*	*	-	-	-	2847	148	46
Cereals	*	*	*	-	-	-	2790	145	45
Teff	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-
Maize	*	*	*	-	-	-	2430	112	36
Sorghum	*	*	*	-	-	-	883	33	9
Finger millet	-	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	*	*	-
Pulse	-	-	-	-	-	-	168	3	*
Horse/Faba beans	-	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-	-
Haricot beans	-	-	-	-	-	-	168	3	*
Chick peas	-	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	-	-	-	-	-	-
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-

Dire Dawa Region

Table 1.9(Cont'd)

Crop type	Improved seed			Pesticide		Irrigation		Extension package	
	Holder	Hectare	Quintal	Holder	Hectare	Holder	Hectare	Holder	Hectare
Grain Crops	*	*	*	-	-	1778	72	*	*
Cereals	*	*	*	-	-	1778	71	*	*
Teff	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-
Maize	*	*	*	-	-	1561	65	*	*
Sorghum	*	*	*	-	-	323	*	*	*
Finger millet	-	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-	-
Pulse	-	-	-	-	-	*	*	*	*
Horse/Faba beans	-	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-	-
Haricot beans	-	-	-	-	-	*	*	*	*
Chick peas	-	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oil seeds	-	-	-	-	-	-	-	-	-
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-

3.4 Total Number of Belg Crop producing Holders reporting use of Improved Farm Management Practices, by Holders' Educational Status.

Holders Educational Status plays important role in the adoption new and improved farming technologies, therefore, in this report an attempt is made to categorize holders reporting use of modern farming practice during the 2004/05 Belg Season Crop Production activities depending up on their educational status. According to the results of the 2004/05 Belg Season Crop Production Sample Survey, out of the total number i.e. 3.85 million holders, the highest number of holders (about 478.98 thousand holders) used chemical fertilizers, followed by use of irrigation scheme (300.99 thousand holders). It was also estimated that illiterate holders were recorded more in all application of agricultural inputs as compared to litrate holders.

Fig 2. Number of Holders Applying Inputs By Educational Status, 2003/04 Belg Season.

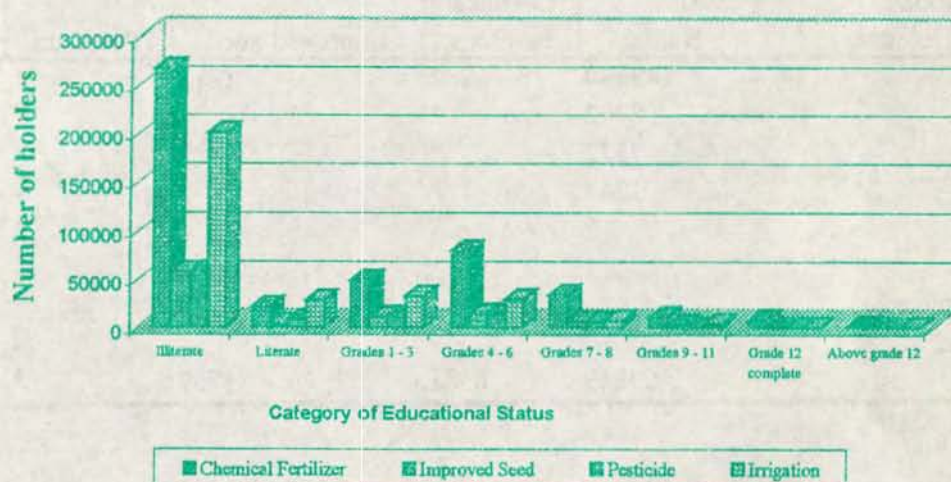


Table 2. Holders Applying Inputs by Educational Status

Ethiopia

Educational Status of Holders	All Crop Holders	Chemical Fertilizer	Improved Seed	Pesticide	Irrigation
Illiterate	2606271	266107	57287	57608	200407
Literate	211324	21541	3110	7386	27452
Grades 1 - 3	401842	48459	11188	10397	32521
Grades 4 - 6	425539	79570	13610	13676	28907
Grades 7 - 8	130302	33416	5808	5907	6856
Grades 9 - 11	46365	10331	2654	*	3469
Grade 12 complete	24772	7659	*	*	*
Above grade 12	5434	1465	*	-	*
Total	3851848	468547	94965	97178	300989

Table 2.1 Holders Applying Inputs by Educational Status

Tigray Region

Educational Status of Holders	All Crop Holders	Chemical Fertilizer	Improved Seed	Pesticide	Irrigation
Illiterate	49590	6282	1213	*	18451
Literate	8902	*	*	*	2990
Grades 1 - 3	7572	*	*	*	2487
Grades 4 - 6	3243	*	-	-	*
Grades 7 - 8	*	-	-	*	-
Grades 9 - 11	*	*	-	-	*
Grade 12 complete	-	-	-	-	-
Above grade 12	-	-	-	-	-
Total	69849	8381	1759	*	25343

Table 2.2 Holders Applying Inputs by Educational Status

Afar Region

Educational Status of Holders	All Crop Holders	Chemical Fertilizer	Improved Seed	Pesticide	Irrigation
Illiterate	2426	-	*	*	*
Literate	*	-	-	-	-
Grades 1 - 3	*	-	*	-	*
Grades 4 - 6	*	-	*	-	*
Grades 7 - 8	-	-	-	-	-
Grades 9 - 11	*	-	-	-	-
Grade 12 complete	-	-	-	-	-
Above grade 12	-	-	-	-	-
Total	2799	-	*	*	*

Table 2.3 Holders Applying Inputs by Educational Status

Amhara Region

Educational Status of Holders	All Crop Holders	Chemical Fertilizer	Improved Seed	Pesticide	Irrigation
Illiterate	361647	10030	*	3622	72162
Literate	57526	2641	*	1399	16001
Grades 1 - 3	24828	*	-	*	6665
Grades 4 - 6	26679	*	-	*	6543
Grades 7 - 8	5784	*	-	-	*
Grades 9 - 11	2870	-	-	*	*
Grade 12 complete	*	*	-	-	-
Above grade 12	-	-	-	-	-
Total	480290	16110	*	6044	103037

Table 2.4 Holders Applying Inputs by Educational Status

Oromia Region

Educational Status of Holders	All Crop Holders	Chemical Fertilizer	Improved Seed	Pesticide	Irrigation
Illiterate	1093625	108980	10387	43051	96738
Literate	104996	11014	*	4812	7799
Grades 1 - 3	180989	20184	*	7937	21593
Grades 4 - 6	174058	31787	1667	11970	18480
Grades 7 - 8	52858	11780	*	4687	5423
Grades 9 - 11	18080	*	*	*	*
Grade 12 complete	7579	2287	*	*	*
Above grade 12	2197	*	-	-	*
Total	1634383	188111	17098	73811	152557

Table 2.5 Holders Applying Inputs by Educational Status

Somale Region

Educational Status of Holders	All Crop Holders	Chemical Fertilizer	Improved Seed	Pesticide	Irrigation
Illiterate	16625	-	*	*	2057
Literate	2463	-	-	-	104
Grades 1 - 3	1199	-	-	*	*
Grades 4 - 6	703	-	-	-	*
Grades 7 - 8	219	-	-	-	-
Grades 9 - 11	*	-	-	-	-
Grade 12 complete	*	-	-	-	-
Above grade 12	*	-	-	-	-
Total	21308	-	*	*	2259

Table 2.6 Holders Applying Inputs by Educational Status

Benshangul-Gumuz Region

Educational Status of Holders	All Crop Holders	Chemical Fertilizer	Improved Seed	Pesticide	Irrigation
Illiterate	7087	-	-	-	1689
Literate	801	-	-	-	*
Grades 1 - 3	1317	*	-	-	*
Grades 4 - 6	1155	-	-	-	359
Grades 7 - 8	*	-	-	-	-
Grades 9 - 11	*	-	-	-	-
Grade 12 complete	-	-	-	-	-
Above grade 12	-	-	-	-	-
Total	10480	*	-	-	*

Table 2.7 Holders Applying Inputs by Educational Status

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

Educational Status of Holders	All Crop Holders	Chemical Fertilizer	Improved Seed	Pesticide	Irrigation
Illiterate	1071337	140686	43823	10604	6817
Literate	36154	6788	1606	*	*
Grades 1 - 3	185566	26757	7228	1560	1085
Grades 4 - 6	218978	45826	11803	1446	2019
Grades 7 - 8	70858	20876	5462	964	*
Grades 9 - 11	25135	8555	2507	*	*
Grade 12 complete	16210	5179	*	*	*
Above grade 12	3196	1017	*	-	-
Total	1627433	255685	73591	15481	12134

Table 2.8 Holders Applying Inputs by Educational Status

Harari Region

Educational Status of Holders	All Crop Holders	Chemical Fertilizer	Improved Seed	Pesticide	Irrigation
Illiterate	1406 *	-	-	-	-
Literate	206 -	-	-	-	-
Grades 1 - 3	*	-	-	-	-
Grades 4 - 6	367 *	-	-	-	-
Grades 7 - 8	*	-	-	-	-
Grades 9 - 11	*	-	-	-	-
Grade 12 complete	-	-	-	-	-
Above grade 12	-	-	-	-	-
Total	2317 *	-	-	-	-

Table 2.9 Holders Applying Inputs by Educational Status

Dire Dawa Region

Educational Status of Holders	All Crop Holders	Chemical Fertilizer	Improved Seed	Pesticide	Irrigation
Illiterate	2528	*	*	-	1544
Literate	138	-	*	-	*
Grades 1 - 3	*	-	*	-	*
Grades 4 - 6	217	-	-	-	*
Grades 7 - 8	*	-	-	-	*
Grades 9 - 11	-	-	-	-	-
Grade 12 complete	-	-	-	-	-
Above grade 12	-	-	-	-	-
Total	2987	*	*	-	1778

3.5 Total number of Belg Crop producing Holders Reporting use of Improved Farm Management Practices by Age.

To easily identify the age category of holders who used to practice modern farm management on their holdings, Belg crop producing holders' ages have been categorized into nine groups. These are:

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 state

Based on the survey results, a total of 3.85 million holders were engaged in the over all Belg season agricultural activities in 2004/05 (1997 E.C) Belg season. As mentioned above, these holders are categorized in to nine age groups based on the age of the holder. Accordingly, the highest number 1058519 (27.48%) of holders was estimated to fall in the age group 30-39. The second (21.76%) and third (16.77%) highest number of holders fall in the age groups 40-49 and 60 and above, respectively. Moreover, it was estimated that a total of 846,621 Belg crop-producing holders (about 21.98% of the total) reported the use of improved farm management practices (see summary Table F)

Table 2.8 Holders Applying Inputs by Educational Status

Harari Region

Educational Status of Holders	All Crop Holders	Chemical Fertilizer	Improved Seed	Pesticide	Irrigation
Illiterate	1406 *	-	-	-	-
Literate	206 -	-	-	-	-
Grades 1 - 3	*	-	-	-	-
Grades 4 - 6	367 *	-	-	-	-
Grades 7 - 8	*	-	-	-	-
Grades 9 - 11	*	-	-	-	-
Grade 12 complete	-	-	-	-	-
Above grade 12	-	-	-	-	-
Total	2317 *	-	-	-	-

Table 2.9 Holders Applying Inputs by Educational Status

Dire Dawa Region

Educational Status of Holders	All Crop Holders	Chemical Fertilizer	Improved Seed	Pesticide	Irrigation
Illiterate	2528	*	*	-	1544
Literate	138	-	*	-	*
Grades 1 - 3	*	-	*	-	*
Grades 4 - 6	217	-	-	-	*
Grades 7 - 8	*	-	-	-	*
Grades 9 - 11	-	-	-	-	-
Grade 12 complete	-	-	-	-	-
Above grade 12	-	-	-	-	-
Total	2987	*	*	-	1778

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Group	5	-	30-39 Years
Group	6	-	40-49 Years
Group	7	-	50-59 Years
Group	8	-	60 years& above
Group	9	-	not state

Based on the survey results, a total of 3.85 million holders were engaged in the over all Belg season agricultural activities in 2004/05 (1997 E.C) Belg season. As mentioned above, these holders are categorized in to nine age groups based on the age of the holder. Accordingly, the highest number 1058519 (27.48%) of holders was estimated to fall in the age group 30-39. The second (21.76%) and third (16.77%) highest number of holders fall in the age groups 40-49 and 60 and above, respectively. Moreover, it was estimated that a total of 846,621 Belg crop-producing holders (about 21.98% of the total) reported the use of improved farm management practices (see summary Table F)

Summary Table F: Total number of Belg Crop Producing holders reporting use of Farm Management Practices by age for Private holdings in Ethiopia, 2004/05 (1997 E.C.)

Age Group Category	Total Number of Holders		Number of holders Reporting use of Farm Management Practices	
	Number	%	Number	%
Under 18	22644	0.59	4704	0.56
18-20	72751	1.89	14419	1.70
21-24	176058	4.57	35361	4.18
25-29	490439	12.84	100513	11.87
30-39	1058519	27.48	244888	28.93
40-49	838204	21.76	189312	22.36
50-59	545573	14.16	125079	14.77
60 & ABOVE	645772	16.77	132174	15.61
NOT STATED	*	*	*	*
TOTAL	3851848	100.00	846621	100.00

Fig. 3 Number of holders applying agricultural inputs by Age Group, 2004/05 Belg Season

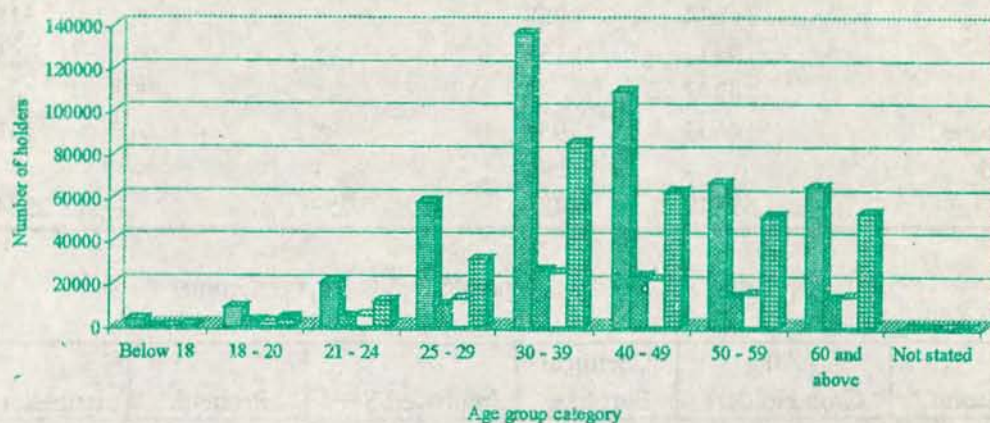


Table 3. Holders Applying Inputs by Age Group

Ethiopia

Age Group	All Crop Holders	Chemical Fertilizer	Improved Seed	Pesticide	Irrigation
Below 18	22644	3316	*	*	1010
18 - 20	72751	8593	2331	2053	3969
21 - 24	176058	20594	4632	5196	11867
25 - 29	490439	57953	10369	13079	31056
30 - 39	1058519	136453	26308	25003	85565
40 - 49	838204	109445	23616	22101	62986
50 - 59	545573	66952	13964	15363	51520
60 and above	645772	65067	13240	14144	53017
Not stated	*	*	-	-	-
Total	3851848	468547	94965	97178	300989

Table 3.1. Holders Applying Inputs by Age Group

Tigray Region

Age Group	All Crop Holders	Chemical Fertilizer	Improved Seed	Pesticide	Irrigation
Below 18	*	-	-	-	*
18 - 20	1008	*	-	-	*
21 - 24	*	*	*	-	*
25 - 29	5607	*	-	*	*
30 - 39	14234	968	*	*	5187
40 - 49	19233	2155	*	*	6650
50 - 59	14248	*	*	*	6045
60 and above	14673	1950	*	-	4513
Not stated	-	-	-	-	-
Total	69849	8381	1759	*	25343

Table 3.2. Holders Applying Inputs by Age Group

Afar Region

Age Group	All Crop Holders	Chemical Fertilizer	Improved Seed	Pesticide	Irrigation
Below 18	-	-	-	-	-
18 - 20	*	-	-	-	-
21 - 24	216	-	*	-	*
25 - 29	242	-	*	-	*
30 - 39	589	-	*	-	*
40 - 49	735	-	*	*	*
50 - 59	322	-	*	-	*
60 and above	550	-	*	-	*
Not stated	-	-	-	-	-
Total	2799	-	*	*	*

Table 3.3. Holders Applying Inputs by Age Group

Amhara Region

Age Group	All Crop Holders	Chemical Fertilizer	Improved Seed	Pesticide	Irrigation
Below 18	3233	-	-	-	*
18 - 20	4962	*	-	-	*
21 - 24	14541	*	-	-	3148
25 - 29	40921	*	-	*	6256
30 - 39	108400	4857	-	*	26440
40 - 49	111903	4307	*	*	23752
50 - 59	92118	2713	*	*	20739
60 and above	103184	*	-	2693	22073
Not stated	*	*	-	-	-
Total	480290	16110	*	6044	103037

Table 3.4. Holders Applying Inputs by Age Group

Oromia Region

Age Group	All Crop Holders	Chemical Fertilizer	Improved Seed	Pesticide	Irrigation
Below 18	9703	1514	-	*	-
18 - 20	37818	5225	*	2006	2700
21 - 24	83563	9782	*	4408	8347
25 - 29	220959	25990	3006	9242	19758
30 - 39	444412	49861	5383	20750	48259
40 - 49	339754	42831	2741	16344	28159
50 - 59	215358	26753	*	10745	21733
60 and above	281977	26156	2677	10075	23600
Not stated	*	-	-	-	-
Total	1634383	188111	17098	73811	152557

Table 3.5. Holders Applying Inputs by Age Group

Somale Region

Age Group	All Crop Holders	Chemical Fertilizer	Improved Seed	Pesticide	Irrigation
Below 18	-	-	-	-	-
18 - 20	788	-	-	-	*
21 - 24	906	-	-	-	*
25 - 29	2795	-	*	-	347
30 - 39	5958	-	-	*	849
40 - 49	5111	-	*	*	443
50 - 59	2485	-	*	-	229
60 and above	3265	-	-	-	318
Not stated	-	-	-	-	-
Total	21308	-	*	*	2259

Table 3.6. Holders Applying Inputs by Age Group

Benshangul-Gumuz Region

Age Group	All Crop Holders	Chemical Fertilizer	Improved Seed	Pesticide	Irrigation
Below 18	*	-	-	-	*
18 - 20	*	-	-	-	*
21 - 24	766	-	-	-	-
25 - 29	1338	-	-	-	*
30 - 39	3025	*	-	-	838
40 - 49	1882	-	-	-	*
50 - 59	941	-	-	-	*
60 and above	2013	-	-	-	*
Not stated	-	-	-	-	-
Total	10480	*	-	-	*

Table 3.7. Holders Applying Inputs by Age Group

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

Age Group	All Crop Holders	Chemical Fertilizer	Improved Seed	Pesticide	Irrigation
Below 18	9289	1481	*	-	*
18 - 20	27538	3242	1373	*	*
21 - 24	75267	10287	3383	788	-
25 - 29	217889	29303	7231	2955	1897
30 - 39	480153	80633	20076	2799	3085
40 - 49	358425	60127	19788	4037	2852
50 - 59	219405	35183	11229	3481	*
60 and above	239445	35429	10004	1375	*
Not stated	*	-	-	-	-
Total	1627433	255685	73591	15481	12134

Table 3.8. Holders Applying Inputs by Age Group

Harari Region

Age Group	All Crop Holders	Chemical Fertilizer	Improved Seed	Pesticide	Irrigation
Below 18	-	-	-	-	-
18 - 20	*	-	-	-	-
21 - 24	*	*	-	-	-
25 - 29	326	*	-	-	-
30 - 39	729	*	-	-	-
40 - 49	538	*	-	-	-
50 - 59	337	*	-	-	-
60 and above	258	-	-	-	-
Not stated	-	-	-	-	-
Total	2317	*	-	-	-

Table 3.9. Holders Applying Inputs by Age Group

Dire Dawa Region

Age Group	All Crop Holders	Chemical Fertilizer	Improved Seed	Pesticide	Irrigation
Below 18	*	-	-	-	*
18 - 20	*	-	-	-	*
21 - 24	105	-	*	-	*
25 - 29	362	-	-	-	226
30 - 39	1019	-	*	-	550
40 - 49	624	-	*	-	328
50 - 59	359	-	-	-	226
60 and above	408	*	-	-	322
Not stated	-	-	-	-	-
Total	2987	*	*	-	1778

3. 6 Number of Holders Reporting Damaged Cropland Area by Causes of Damage

The total number of belg crop producing private peasant holders who reported their crops were damaged by different causes of damage during the year 2004/05 Belg Season Crop Production harvest were estimated to be about 1.39 million and the damaged cropland area was estimated to be 142.67 thousand hectares. As indicated in Table 4, the highest cropland area was reported for cereals, that is 106.71 thousand hectares, followed by pulses (35.41 thousand hectares), and the oilseeds (0.55 thousand hectares) , respectively.

With regard to the causes of crop damage, it is reported that 71.62 thousand hectares was damaged due to Hailstone, the second highest crop damage which is estimated at 27.21 thousand hecares was damaged by Frost. For details, see Table 4.

Fig 4. Total damaged cropland area by causes of damage and crop category



Table 4. Number of Holders and Damaged Crop Area in Hectare by Category of Crops and Cause of Damage

Ethiopia

Cause of damage	All holders	Grain Crops	Crop category		
			Cereals	Pulses	Oilseeds
All damage	142666	6988	51314	42825	29325
Crop disease	*	*	*	*	*
Frost or floods	27212	939	9394	8806	5759
Locust	3076	311	*	*	*
Shortage of rain	205	*	89	*	-
Too much rain	2805	297	1190	*	530
Wild animals	470	66	226	133	*
Birds	5583	214	1835	1369	1653
Hailstone	71624	3086	25130	23592	14324
Pests	11314	476	3462	2760	3175
Weeds	7642	433	2755	1605	1656
Others	12582	1096	5612	2899	2016

Table 4.1 Number of Holders and Damaged Crop Area in Hectare by Category of Crops and Cause of Damage

Tigray Region

Cause of damage	All holders	Grain Crops	Crop category		
			Cereals	Pulses	Oilseeds
All damage	7761	276	1360	*	*
Crop disease	-	-	-	-	-
Frost or floods	*	*	*	-	-
Locust	*	*	*	-	-
Shortage of rain	*	-	*	-	-
Too much rain	*	*	-	-	-
Wild animals	*	-	*	*	-
Birds	*	-	*	-	-
Hailstone	7061	196	1150	*	2939
Pests	*	-	-	-	*
Weeds	*	*	*	*	-
Others	*	*	*	*	-

Table 4.2 Number of Holders and Damaged Crop Area in Hectare by Category of Crops and Cause of Damage

Afar Region

Cause of damage	All holders	Grain Crops	Crop category		
			Cereals	Pulses	Oilseeds
All damage	360	*	184	*	*
Crop disease	-	-	-	-	-
Frost or floods	*	-	*	-	-
Locust	-	-	-	-	-
Shortage of rain	*	-	*	*	-
Too much rain	-	-	-	-	-
Wild animals	-	-	-	-	-
Birds	*	-	12	*	*
Hailstone	215	*	122	*	-
Pests	*	-	*	-	-
Weeds	*	-	*	*	-
Others	*	-	*	*	-

Table 4.3 Number of Holders and Damaged Crop Area in Hectare by Category of Crops and Cause of Damage

Amhara Region

Cause of damage	All holders	Grain Crops	Crop category		
			Cereals	Pulses	Oilseeds
All damage	44299	1835	15654	15610	7889
Crop disease	-	-	-	-	-
Frost or floods	3115	275	1861	934	*
Locust	*	*	*	*	-
Shortage of rain	*	*	*	-	-
Too much rain	1489	128	712	*	*
Wild animals	265	*	132	*	*
Birds	174	*	155	*	-
Hailstone	34139	1007	9842	12840	*
Pests	*	108	*	*	*
Weeds	1077	105	507	*	*
Others	1421	100	882	206	*

Table 4.4 Number of Holders and Damaged Crop Area in Hectare by Category of Crops and Cause of Damage

Oromia Region

Cause of damage	All holders	Grain Crops	Crop category		
			Cereals	Pulses	Oilseeds
All damage	52030	2451	19495	15363	10411
Crop disease	*	*	*	*	-
Frost or floods	16359	259	4568	5989	4116
Locust	*	*	*	*	*
Shortage of rain	*	*	*	*	-
Too much rain	856	103	*	*	*
Wild animals	55	*	*	*	*
Birds	2283	108	649	671	666
Hailstone	16872	855	7718	5090	2224
Pests	5952	124	1328	1703	1838
Weeds	3240	215	1670	460	662
Others	5390	692	2922	1004	520

Table 4.5 Number of Holders and Damaged Crop Area in Hectare by Category of Crops and Cause of Damage

Somale Region

Cause of damage	All holders	Grain Crops	Crop category		
			Cereals	Pulses	Oilseeds
All damage	2134	44	381	524	*
Crop disease	-	-	-	-	-
Frost or floods	*	*	*	*	*
Locust	-	-	-	-	-
Shortage of rain	-	-	-	-	-
Too much rain	*	*	*	-	-
Wild animals	*	-	-	*	-
Birds	*	*	*	*	*
Hailstone	*	18	130	*	*
Pests	*	-	*	*	*
Weeds	65	*	27	*	-
Others	*	*	79	*	*

Table 4.6 Number of Holders and Damaged Crop Area in Hectare by Category
of Crops and Cause of Damage

Benshangul-Gumuz Region

Cause of damage	All holders	Grain Crops	Crop category		
			Cereals	Pulses	Oilseeds
All damage	98	22	75	-	-
Crop disease	-	-	-	-	-
Frost or floods	*	*	*	-	-
Locust	-	-	-	-	-
Shortage of rain	-	-	-	-	-
Too much rain	*	*	*	-	-
Wild animals	-	-	-	-	-
Birds	*	*	*	-	-
Hailstone	*	*	*	-	-
Pests	-	-	-	-	-
Weeds	*	*	*	-	-
Others	*	11	*	-	-

Table 4.7 Number of Holders and Damaged Crop Area in Hectare by Category
of Crops and Cause of Damage

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

Cause of damage	All holders	Grain Crops	Crop category		
			Cereals	Pulses	Oilseeds
All damage	35951	2344	14145	9332	6882
Crop disease	*	-	*	*	*
Frost or floods	7484	388	2906	1862	1531
Locust	649	222	343	*	-
Shortage of rain	*	-	*	*	-
Too much rain	418	42	198	59	*
Wild animals	135	25	*	*	*
Birds	2687	91	952	549	772
Hailstone	12447	991	6142	3571	1560
Pests	3593	243	1414	808	738
Weeds	3069	70	459	748	*
Others	5437	272	1655	1592	1218

Table 4.8 Number of Holders and Damaged Crop Area in Hectare by Category
of Crops and Cause of Damage

Harari Region

Cause of damage	All holders	Grain Crops	Crop category		
			Cereals	Pulses	Oilseeds
All damage	*	*	*	-	-
Crop disease	-	-	-	-	-
Frost or floods	*	*	-	-	-
Locust	-	-	-	-	-
Shortage of rain	-	-	-	-	-
Too much rain	-	-	-	-	-
Wild animals	-	-	-	-	-
Birds	*	-	*	-	-
Hailstone	*	*	-	-	-
Pests	*	-	*	-	-
Weeds	-	-	-	-	-
Others	-	-	-	-	-

Table 4.9 Number of Holders and Damaged Crop Area in Hectare by Category
of Crops and Cause of Damage

Dire Da wa Region

Cause of damage	All holders	Grain Crops	Crop category		
			Cereals	Pulses	Oilseeds
All damage	30	12	*	-	-
Crop disease	-	-	-	-	-
Frost or floods	-	-	-	-	-
Locust	-	-	-	-	-
Shortage of rain	-	-	-	-	-
Too much rain	-	-	-	-	-
Wild animals	-	-	-	-	-
Birds	-	-	-	-	-
Hailstone	27	11	*	-	-
Pests	*	*	*	-	-
Weeds	*	*	*	-	-
Others	*	*	-	-	-

Appendix I

**Estimation Procedures of Totals, Ratios and
Sampling Errors**

APPENDIX I Estimation Procedures of Totals, Ratios and Sampling Errors

The following formulas were used to estimate total area of land under specific crop, total holders and ratios in a stratum.

1. For estimating Total Area of Land under Specific Crop:

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

in which, $W_{hi} = \frac{M_h H_{hi}}{n_h m_{hi} h_{hi}}$ is the basic weight.

Where:

h represents the stratum

n_h is the total number of sample EAs successfully covered in the h^{th} stratum.

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

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

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

h_{hi} is the number of sample agricultural households successfully covered in the i^{th} sample EA in the h^{th} stratum.

a_{hij} is the value of area for agricultural households j , in the i^{th} EA in the h^{th} stratum under a specific crop.

a_{hi} is the sample total area under specific crop for EA i in stratum h .

$\hat{A}_h$ estimate of total area under specific crop in stratum h .

2. For estimating Total number of Holders:

$$\hat{Y}_h = \sum_{i=1}^{n_h} W_{hi} y_{hi}$$

Where:

y_{hi} is the sample total number of holders of i^{th} EA in the h^{th} stratum.

$\hat{Y}_h$ is estimate of total number of holders for the h^{th} stratum.

W_{hi} is as defined above.

3. For estimating quantity of fertilizer in stratum h:

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

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 a specific fertilizer applied for a specific crop land in the i^{th} EA in the h^{th} stratum.

W_{hi} is as defined above.

4. For estimating Ratios in stratum h:

$$\hat{R}_h = \frac{\hat{Z}_h}{\hat{X}_h},$$

Where the numerator and denominator are estimates of domain totals for characteristic z and x, respectively.

5. Sampling Variance of Estimates:

Sampling variance for the estimate of stratum total of area for a specific crop and holders, and ratios are estimated by the following formulas.

$$Var(\hat{A}_h) = (1 - f_h) \frac{n_h}{n_h - 1} \sum_{i=1}^{n_h} \left(\hat{A}_{hi} - \frac{\hat{A}_h}{n_h} \right)^2 + f_h \sum_{i=1}^{n_h} (1 - f_{hi}) \left(\frac{h_{hi}}{h_{hi} - 1} \right) \sum_{j=1}^{h_{hi}} \left(\hat{A}_{hij} - \frac{\hat{A}_{hi}}{h_{hi}} \right)^2$$

$$Var(\hat{Y}_h) = (1 - f_h) \frac{n_h}{n_h - 1} \sum_{i=1}^{n_h} \left(\hat{Y}_{hi} - \frac{\hat{Y}_h}{n_h} \right)^2 + f_h \sum_{i=1}^{n_h} (1 - f_{hi}) \left(\frac{h_{hi}}{h_{hi} - 1} \right) \sum_{j=1}^{h_{hi}} \left(\hat{Y}_{hij} - \frac{\hat{Y}_{hi}}{h_{hi}} \right)^2$$

6. Coefficient of Variation (CV) of Estimates:

Coefficient of Variation (CV) in percentage of estimate of stratum total of area and holder production for a specific crop are given by:

$$CV(\hat{A}_h) = \frac{\sqrt{Var(\hat{A}_h)}}{\hat{A}_h} * 100, CV(\hat{Y}_h) = \frac{\sqrt{Var(\hat{Y}_h)}}{\hat{Y}_h} * 100, CV(\hat{Q}_h) = \frac{\sqrt{Var(\hat{Q}_h)}}{\hat{Q}_h} * 100, CV(\hat{R}_h) = \frac{\sqrt{Var(\hat{R}_h)}}{\hat{R}_h} * 100$$

7. Ninety-five percent confidence interval (CI) of stratum total of area:

$$\hat{A}_h \pm 1.96 * SE(\hat{A}_h) ,$$

Where $SE(\hat{A}_h) = \sqrt{Var(\hat{A}_h)}$ is standard error of the estimate of the stratum total of area.

Estimates of standard error and confidence interval for the other estimates can also be calculated by adopting the above formulas.

Appendix II

Standard Error And Coefficient Of

Variation For Different Farm Management

Practices of Belg Season Crops

Annex II

Table 1 Estimates of Number of Holders, Inputs applied Area and Quantity of Inputs used and their Standard Errors & Coefficients of Variations of Major Crops (For Ethiopia), 2004/5(1997 E.C) Agricultural Sample Survey, Belg Season

Crop	All crop land area			All fertilizer						Natural					
	Area (Ha)			Area (Ha)			Quantity (Qt)			Holder			Area (Ha)		
	Estimate	S.E	C.V	Estimate	S.E	C.V	Estimate	S.E	C.V	Estimate	S.E	C.V	Estimate	S.E	C.V
All	982797	42588	4.33	290940	20686	7.11	84401	11806	13.99	1724308	61444	3.56	173999	9596	5.52
Cereals	796488	36614	4.6	237739	19696	8.28	67903	11314	16.66	1616115	59219	3.66	138968	8303	5.97
Teff	97886	11341	11.59	14982	2622	17.5	1775	617	34.75	74758	11980	16.03	10167	1815	17.85
Barley	159348	19115	12	74896	13522	18.05	30199	7990	26.46	203215	22827	11.23	24857	3456	13.9
Wheat	59257	10855	18.32	20135	7432	36.91	9825	5049	51.4	48293	8486	17.57	5179	1088	21.01
Maize	408649	18932	4.63	112923	7726	6.84	24561	4348	17.7	1346629	54046	4.01	86491	6487	7.5
Sorghum	57843	7439	12.86	11626	1784	15.34	963	395	40.98	97380	11234	11.54	10887	1751	16.08
Finger millet	1620	336	20.75	544	153	28.18	16	10	63.35	6186	1648	26.64	501	152	30.27
Oats/ 'Aja'	11784	3011	25.55	2625	910	34.67	563	215	38.17	13625	3577	26.25	887	347	39.11
Rice	100	66	65.74	7	7	99.54	2	2	99.86	384	273	71.01	-	-	99.46
Pulse	176636	13021	7.37	52401	3419	6.53	16151	1964	12.16	826322	41210	4.99	34332	2639	7.69
Horse/Faba beans	2158	433	20.06	248	66	26.79	41	27	65.19	15806	4796	30.34	217	63	29.22
Field peas	20682	4189	20.25	2967	727	24.5	392	192	48.97	23183	4373	18.86	1928	586	30.39
Haricot beans	125385	10388	8.29	44585	3119	6.99	15612	1947	12.47	772186	40273	5.22	27797	2344	8.43
Chick peas	13508	2939	21.76	2849	662	23.23	-	-	-	23773	5937	24.97	2849	662	23.23
Lentiles	12290	3399	27.66	1345	410	30.46	50	40	80.13	15045	4253	28.27	1151	375	32.55
Vetch/Grass peas	1806	954	52.82	330	155	46.92	-	-	-	5965	2145	35.96	330	155	46.92
Soya beans	25	16	63.95	14	13	92.18	15	14	93.9	15	15	97.66	-	-	97.66
Fenugreek	763	466	61.08	46	19	42.29	42	41	98.95	3558	1097	30.83	42	19	44.85
Gibto	19	19	99.13	19	19	99.13	-	-	-	340	337	99.13	19	19	99.13
Oile seeds	9672	3240	33.5	800	309	38.61	347	228	65.66	24468	5663	23.14	699	297	42.46
Nueg	144	96	66.75	2	2	99.41	-	-	-	125	124	99.41	2	2	99.41
Linseed	5768	2736	47.44	32	12	37.61	-	-	-	3020	958	31.74	32	12	37.61
Ground nuts	2664	1691	63.5	486	290	59.56	48	48	99.27	4870	1895	38.91	465	289	62.25
Safflower	312	96	30.78	36	15	41.63	-	-	-	2553	862	33.77	36	15	41.63
Sesame	449	282	62.72	10	9	94.61	-	-	-	521	460	88.17	10	9	94.61
Rapeseed	336	124	36.84	235	105	44.76	299	223	74.57	13378	5177	38.7	155	62	40.28

Table 1 (Continued)

Crop	DAP									Urea								
	Holder			Area(Ha)			Quantity(Qt)			Holder			Area(Ha)			Quantity(Qt)		
	Estimate	S.E	C.V	Estimate	S.E	C.V	Estimate	S.E	C.V	Estimate	S.E	C.V	Estimate	S.E	C.V	Estimate	S.E	C.V
All	396209	34166	8.62	105742	17252	16.32	71490	11273	15.77	29014	6143	21.17	4429	1448	32.69	3864	1367	35.4
Cereals	331463	32780	9.89	89696	16986	18.94	57274	10825	18.9	25649	5603	21.85	3750	1248	33.28	3101	1290	41.6
Teff	19063	5155	27.04	3367	1466	43.54	1175	486	41.34	4155	3530	84.97	1086	788	72.51	375	276	73.4
Barley	125361	25216	20.12	48843	12239	25.06	29489	7972	27.04	3181	1536	48.29	431	220	51.12	188	99	52.3
Wheat	38990	13545	34.74	14589	7321	50.18	9531	5049	52.97	671	471	70.24	248	169	68.2	200	151	75.3
Maize	189027	19636	10.39	20794	2711	13.04	16130	2128	13.19	18650	4125	22.12	1800	604	33.57	2288	1228	53.7
Sorghum	4757	1368	28.76	345	152	43.9	386	193	50.03	898	584	65.03	185	154	83.41	50	33	67
Finger millet	407	272	66.87	31	20	64.43	13	10	72.59	-	-	-	-	-	-	-	-	-
Oats/ 'Aja'	10861	3768	34.69	1718	808	47.04	548	214	39.13	-	-	-	-	-	-	-	-	-
Rice	127	127	99.86	7	7	99.86	2	2	99.86	-	-	-	-	-	-	-	-	-
Pulse	190130	18731	9.85	15953	1877	11.76	13869	1823	13.14	12483	3520	28.2	670	287	42.86	763	236	30.9
Horse/Faba beans	547	282	51.61	13	10	76.65	15	9	59.6	197	199	101	-	1	101	1	1	101
Field peas	4926	1823	37	961	378	39.35	283	155	54.8	-	-	-	-	-	-	-	-	-
Haricot beans	185389	18663	10.07	14953	1820	12.17	13564	1815	13.38	12483	3520	28.2	509	157	30.76	723	219	30.4
Chick peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentiles	422	426	101	23	23	101	3	3	101	393	389	98.89	160	158	98.89	39	39	98.9
Vetch/Grass peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soya beans	53	51	96.36	3	3	96.36	5	4	96.36	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oil seeds	2629	1177	44.79	92	46	50.03	347	228	65.66	436	436	100.1	9	9	100.1	-	-	-
Nueg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ground nuts	322	319	99.27	21	21	99.27	48	48	99.27	-	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	2307	1133	49.12	71	41	57.82	299	223	74.57	436	436	100.1	9	9	100.1	-	-	-

Table 1 (Continued)

Crop	Urea + DAP									Indegenous Seed								
	Holder			Area(Ha)			Quantity(Qt)			Holder			Area(Ha)			Quantity(Qt)		
	Estimate	S.E	C.V	Estimate	S.E	C.V	Estimate	S.E	C.V	Estimate	S.E	C.V	Estimate	S.E	C.V	Estimate	S.E	C.V
All	53759	8410	15.64	6770	1381	20.4	9047	2617	28.92	3840258	88126	2.29	967696	42282	4.37	691390	58654	8.48
Cereals	44017	7310	16.61	5325	1101	20.68	7528	2505	33.27	3549509	86026	2.42	781623	36300	4.64	572843	52852	9.23
Teff	3188	1405	44.08	361	158	43.74	224	100	44.6	362158	32473	8.97	97765	11331	11.59	33582	4109	12.2
Barley	9011	2704	30	766	260	33.95	522	167	32.07	693581	50867	7.33	159262	19111	12	272096	37022	13.6
Wheat	1283	772	60.15	119	72	60.52	94	55	59.04	233051	27614	11.85	58192	10781	18.53	101551	24354	24
Maize	34083	6581	19.31	3837	996	25.95	6144	2411	39.25	2770230	73967	2.67	395107	18535	4.69	140999	7297	5.18
Sorghum	1697	619	36.48	210	169	80.39	527	346	65.72	266396	22720	8.53	57793	7438	12.87	8491	969	11.4
Finger millet	218	219	100.2	12	12	100.2	2	2	100.2	16312	2965	18.17	1620	336	20.75	393	78	19.7
Oats/ 'Aja'	305	303	99.29	19	19	99.29	15	15	99.29	81064	14254	17.58	11784	3011	25.55	15707	3954	25.2
Rice	-	-	-	-	-	-	-	-	-	1596	603	37.76	100	66	65.74	23	14	59.1
Pulse	21665	4585	21.16	1446	484	33.49	1519	453	29.83	1940296	64473	3.32	176401	13006	7.37	114623	19081	16.7
Horse/Faba beans	403	396	98.2	18	17	98.27	26	25	98.46	52175	9475	18.16	2158	433	20.06	1635	417	25.5
Field peas	1074	1050	97.75	79	77	97.87	109	107	97.94	138959	20387	14.67	20682	4189	20.25	20589	4124	20
Haricot beans	20277	4429	21.84	1326	474	35.77	1324	418	31.6	1716186	58099	3.39	125253	10387	8.29	66705	15647	23.5
Chick peas	-	-	-	-	-	-	-	-	-	88421	17912	20.26	13417	2909	21.68	9043	2267	25.1
Lentiles	127	127	100.7	11	11	100.7	8	8	100.7	95980	18833	19.62	12290	3399	27.66	10729	3700	34.5
Vetch/Grass peas	-	-	-	-	-	-	-	-	-	25234	9884	39.17	1806	954	52.82	5561	4653	83.7
Soya beans	53	51	96.36	10	10	96.36	11	10	96.36	426	307	71.97	13	8	59.67	4	3	77.8
Fenugreek	403	396	98.2	3	3	98.4	42	41	98.95	12387	3143	25.38	763	466	61.08	350	171	48.9
Gibto	-	-	-	-	-	-	-	-	-	340	337	99.13	19	19	99.13	7	7	99.1
Oile seeds	-	-	-	-	-	-	-	-	-	83828	13784	16.44	9672	3240	33.5	3924	1362	34.7
Nueg	-	-	-	-	-	-	-	-	-	1409	723	51.34	144	96	66.75	13	11	80.4
Linseed	-	-	-	-	-	-	-	-	-	22307	6604	29.61	5768	2736	47.44	2727	1229	45.1
Ground nuts	-	-	-	-	-	-	-	-	-	21176	8169	38.57	2664	1691	63.5	633	408	64.4
Safflower	-	-	-	-	-	-	-	-	-	13001	3127	24.05	312	96	30.78	35	10	28
Sesame	-	-	-	-	-	-	-	-	-	4917	1840	37.41	449	282	62.72	40	21	51.3
Rapeseed	-	-	-	-	-	-	-	-	-	23283	8326	35.76	336	124	36.84	476	426	89.6

Table 1 (Continued)

Crop	Improved Seed									Pesticide					
	Holder			Area(Ha)			Quantity(Qt)			Holder			Area(ha)		
	Estimate	S.E	C.V	Estimate	S.E	C.V	Estimate	S.E	C.V	Estimate	S.E	C.V	Estimate	S.E	C.V
All	94965	12202	12.85	15101	2350	15.56	5555	1287	23.16	97178	16070	16.54	34115	7128	20.89
Cereals	90807	12120	13.35	14866	2341	15.75	5464	1286	23.53	90565	16031	17.7	33311	7119	21.37
Teff	593	394	66.38	121	81	67.14	53	41	77.96	31685	8814	27.82	11081	3184	28.74
Barley	1304	632	48.44	87	52	59.64	172	120	69.56	41459	12020	28.99	10924	3326	30.45
Wheat	3577	1754	49.04	1065	670	62.92	1924	1174	61.01	19842	5530	27.87	7480	3122	41.74
Maize	85150	11881	13.95	13542	2220	16.39	3307	507	15.35	17170	5299	30.86	2088	814	38.97
Sorghum	917	478	52.17	50	25	50.45	8	6	71.56	832	440	52.87	252	166	66.05
Finger millet	12	11	95.73	-	-	95.73	-	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-	7993	2260	28.27	1486	542	36.49
Rice	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulse	7442	1838	24.7	235	102	43.35	90	30	33.53	8720	1685	19.32	804	300	37.39
Horse/Faba beans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricot beans	6908	1785	25.84	132	44	33.33	61	22	36.44	7983	1636	20.5	557	218	39.17
Chick peas	428	427	99.86	91	91	99.86	17	17	99.86	469	308	65.64	38	23	60.75
Lentiles	-	-	-	-	-	-	-	-	-	268	266	99.5	208	207	99.5
Vetch/Grass peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soya beans	106	99	93.41	12	12	94.92	12	11	93.69	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oil seeds	-	-	-	-	-	-	-	-	-	17	16	95.83	-	-	95.83
Nueg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-	-	17	16	95.83	-	-	95.83
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 1 (Continued)

Crop	Irrigation						Extension package					
	Holder			Area(Ha)			Holder			Aea (Ha)		
	Estimate	S.E	C.V	Estimate	S.E	C.V	Estimate	S.E	C.V	Estimate	S.E	C.V
All	300989	28468	9.46	38029	4553	11.97	258810	26476	10.23	67618	11920	17.63
Cereals	286397	28039	9.79	34268	4285	12.51	238119	26014	10.92	58756	11436	19.46
Teff	12763	5410	42.39	2188	939	42.95	23483	7813	33.27	7566	2583	34.14
Barley	25298	5381	21.27	2535	697	27.48	62125	14766	23.77	15847	4852	30.62
Wheat	5993	2164	36.1	408	162	39.62	23875	10459	43.81	11304	7238	64.03
Maize	247583	26790	10.82	28466	4042	14.2	154564	17972	11.63	21583	2627	12.17
Sorghum	4145	1050	25.32	338	144	42.54	8462	2585	30.54	2390	858	35.89
Finger millet	230	219	95.13	12	12	99.39	-	-	-	-	-	-
Oats/ 'Aja'	4748	2386	50.25	256	137	53.5	-	-	-	-	-	-
Rice	308	220	71.39	66	63	94.81	118	111	94.84	66	63	94.84
Pulse	52257	8685	16.62	2978	649	21.8	92140	13061	14.17	7436	1174	15.78
Horse/Faba beans	786	550	69.99	48	35	72.88	-	-	-	-	-	-
Field peas	1536	1225	79.72	101	89	87.62	5547	2263	40.79	529	261	49.3
Haricot beans	36141	7687	21.27	1272	313	24.6	77393	12128	15.67	5536	931	16.81
Chick peas	5078	1935	38.11	461	236	51.13	4601	1926	41.86	525	240	45.72
Lentiles	3885	1392	35.82	491	208	42.41	10281	4661	45.33	846	407	48.1
Vetch/Grass peas	4572	2190	47.9	420	270	64.29	-	-	-	-	-	-
Soya beans	159	147	92.41	15	14	93.48	-	-	-	-	-	-
Fenugreek	2714	1095	40.35	169	109	64.23	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-	-	-	-
Oile seeds	2692	1680	62.39	784	762	97.31	5929	3941	66.47	1426	1335	93.57
Nueg	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	1592	1587	99.71	764	762	99.84	981	584	59.49	41	31	75.95
Ground nuts	-	-	-	-	-	-	4411	3882	88	1336	1304	97.58
Safflower	160	162	100.9	-	-	100.9	-	-	-	-	-	-
Sesame	47	44	94.37	13	13	94.37	47	44	94.37	13	13	94.37
Rapeseed	893	523	58.57	6	4	67.72	1054	660	62.58	36	31	85.27

Appendix III - Questionnaires

Crop Production Sample Survey
List of Fields Under Mixed Crops (Including Vegetables and Root Crops) and Agricultural Practices
(Belg. Season) - 2004/05 (1997 E.C)

Part I - Identification Particulars

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Region	Zone	Wereda	Farmers' Association	Enumeration Area	House hold ID Number	Holder ID Number	Sex of head of House hold M = 1 F = 2	Holders Name	Age	Sex M = 1 F = 2	Educational Status	House hold Size	Type of Holding Crop = 1 Livestock = 2 Both = 3

Part II. Area Under Temporary Crops and Agricultural Practices

and Area Measurement Result

1	2	3	4	5
Sr. No.	Questions	Parcel No.	Field No.	
		Crop Name	Crop Name	Crop Name
		code	cod	cod
1	Type of Holding Private = 1 Rented/Contract = 2 Others			
2	Have the field been included in the extension package program Yes = 1 No = 2			
3	Was the field irrigated? Yes = 1 No = 2			
4	Area in percentage share for each crop			
5	Variety of seeds used Improved = 1 Indigenous = 2			
6	(For Cereals, Pulses and oil seeds only) If indigenous seed was used, What was the total Quantity	Kg gram	Kg gram	Kg gram
7	(For Cereals, Pulses and oil seeds only) If improved seed was used, What was the total quantity	Kg gram	Kg gram	Kg gram
8	(For Cereals, Pulses and oil seeds only) If improved seed was used What was the cost/price	Birr cent.	Birr cent.	Birr cent.
9	Was the crop damaged Yes = 1 No = 2			
0	If you, what was the major causes of damage Percentage of damage	Reas on	co de	Reas on
1	Percentage of damage			
2	Any control/prevention measure taken for crop damage? Yes = 1 No = 2			
3	If Yes, What type of measure? Chemical = 1 Both = 3 Non Chemical = 2			
4	If Chemical Insecticide = 1 1&3 = 5 Herbicides = 2 2&3 = 6 fungicide = 3 All = 7 1&2 = 4			
5	What was field fertilized? Yes = 1 No = 2			
6	If fertilized What type? Natural = 1 Both = 3 Chemical = 2			
7	If chemical fertilizer used 17.1 Type Urea = 1 Both = 3 17.2 Quantity in Kg.			
8	If Natural fertilizer used mainly what type? Manure = 1 1&3 = 5 Compost = 2 2&3 = 6 Orga = 3 All = 7 1&2 = 4 Other			
9	Production in local unit	Local unit	Code	quantity

4	5
Date of Measurement	Area in Sq. m.
Date	Month
	Closure Error
Side ID	1 - 2
Bearing	2 - 3
Distances of	3 -
Side ID	4 -
Bearing	5 -
Distances of	6 -
Side ID	7 -
Bearing	8 -
Distances of	9 -
Side ID	10 -
Bearing	11 -
Distances of	12 -
Side ID	13 -
Bearing	14 -
Distances of	15 -
Side ID	16 -
Bearing	17 -
Distances of	18 -
Side ID	19 -
Bearing	20 -
Distances of	21 -
Side ID	22 -
Bearing	23 -
Distances of	24 -
Reason if Area measurement not conducted →	

Crop Production Sample Survey
List of Fields Under Temporary Crops (Including Vegetables and Root Crops) and Agricultural Practices
(Belg Season) - 2004/05 (1997 E.C)

Part I - Identification Particulars

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Region	Zone	Wereda	Farmers' Association	Enumeration Area	House hold ID Number	Holder ID Number	Sex of head of House hold M = 1 F = 2	Name	Holder Age	Sex M = 1 F = 2	Educational Status	House hold Size	Type of Holding Crop = 1 Livestock = 2 Both = 3

Part II. Area Under Temporary Crops and Agricultural Practices**and Area Measurement Result**

1	2	3	4	5
Sr. No.	Questions	Parcel No.	Field No.	Crop Name
1	Type of Holding Private = 1 Rented/Contract = 2 Ot			
2	Crop Production in local unit	Local unit	Code	quantity
3	Have the field been included in the extension package program Yes = 1 No = 2			
4	Was the field irrigated? Yes = 1 No = 2			
5	Variety of seeds used Improved = 1 Indigenous = 2			
6	(For Cereals, Pulses and oil seeds only) If improved seed was used, What was the total Quantity		Kg gram	
7	(For Cereals, Pulses and oil seeds only) If improved seed was used What was the total quantity		Kg gram	
8	(For Cereals, Pulses and oil seeds only) If improved seed was used What was the cost/price		Birr cent.	
9	Was the crop damaged Yes = 1 No = 2			
10	If you, what was the major causes of damage Percentage of damage	Reason	code	
1	Percentage of damage			
2	Any control/prevention measure taken for crop damage? Yes = 1 No = 2			
3	If Yes, What type of measure? Chemical = 1 Both = 3 Non Chemical = 2			
4	If Chemical Insecticide = 1 1 & 3 = 5 Herbicides = 2 2 & 3 = 6 Fungicide = 3 All = 7 1 & 2 = 4			
5	What was field fertilized? Yes = 1 No = 2			
6	If fertilized What type? Natural = 1 Both = 3 Chemical = 2			
7	If chemical fertilizer used 17.1 Type Urea = 1 Both = 3			
	17.2 Quantity in Kg.		Kg gram	
8	If Natural fertilizer used mainly what type? Manure = 1 1 & 3 = 5 Compost = 2 2 & 3 = 6 Orga = 3 All = 7 1 & 2 = 4 Others (Specify) = 8			

4	5
Date of Measurement	Area in Sq. m.
Date	Month
	Closure Error
Side ID	1 - 2
Bearing	
Distances of	
Side ID	4 -
Bearing	
Distances of	
Side ID	7 -
Bearing	
Distances of	
Side ID	10 -
Bearing	
Distances of	
Side ID	13 -
Bearing	
Distances of	
Side ID	16 -
Bearing	
Distances of	
Side ID	19
Bearing	
Distances of	
Side ID	22 -
Bearing	
Distances of	

Reason if Area measurement not conducted →

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