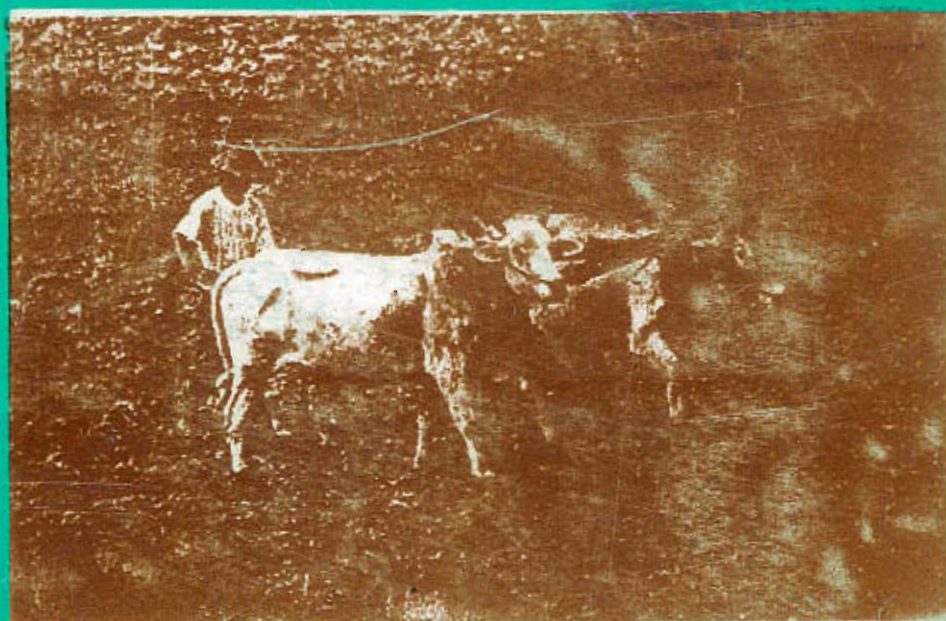


THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA  
CENTRAL STATISTICAL AGENCY

AGRICULTURAL SAMPLE SURVEY  
2009/10(2002 E.C), VOLUME VI



REPORT ON  
FARM MANAGEMENT PRACTICES  
FOR BELG/SECOND SEASON CROPS

PRIVATE PEASANT HOLDINGS

ADDIS ABABA  
OCTOBER 2010

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STATISTICAL BULLETIN

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## CHAPTER- I

### 1. 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. In this regard, the extent of adopting modern agricultural practices, such as utilization of fertilizer, irrigation, pesticides and improved seeds ...etc, by the peasant farmers often used as important indicators for estimating the rate and extent of modern technologies use in the country's agriculture, above all the magnitude and level modern/improved farm management practices in the agriculture sector used to be the sole indicator of the transformation rate of the country's existing agriculture to modern agriculture.

This report which is Volume VI of the seven series reports, presents quantitative information about the use of modern agricultural inputs for Belg season crops of 2009/10 (2002 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 May, 2010 by the Central Statistical Agency (CSA).

#### 1.2 Objectives of the 2008/09 Belg Season Crop Production Sample Survey

The objectives of the 2009/10 (2002 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:-

- 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.

## **CHAPTER II**

### **2. SURVEY METHODOLOGY, FIELD ORGANIZATION, METHOD OF DATA COLLECTION AND PROCESSING**

#### **2.1 COVERAGE**

The 2009/10 (2002 E.C) Annual Agricultural Sample Survey (Belg season) covered the entire rural parts of the country except the non-sedentary population of three zones of Afar & six zones of Somali regions. Accordingly the survey took in to account of all parts of Harari, Dire Dawa, and actually 59 Zones / Special weredas (that are treated as zones) of other regions.

To be covered by the survey, a total of around 1,200 Enumeration Areas (EAs) were selected. However, due to various reasons that are beyond control, in 94 EAs the survey could not be successful and hence interrupted. Thus, all in all the survey succeeded to cover 1104 EAs throughout the regions. The Annual Agricultural Sample survey (Belg season) was conducted on the basis of 30 agricultural households selected from each EA.

#### **2.2 SAMPLING FRAME**

The list containing EAs of all regions and their respective households obtained from the 1999 E.C cartographic census frame was used as the sampling frame in order to select the primary sampling units (EAs). Consequently, all sample EAs were selected from this frame based on the design proposed for the survey. The second stage sampling units, households, were selected from a fresh list of households that were prepared for each EA at the beginning of the survey.

#### **2.3 SAMPLE DESIGN**

In order to select the sample a stratified two-stage cluster sample design was implemented. Enumeration areas (EAs) were taken to be the primary sampling units (PSUs) and the secondary sampling units (SSUs) were agricultural households.

The sample size for the 2008/09 agricultural sample survey was determined by taking into 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 considered.

Except Harari, and Dire Dawa, where each region as a whole was taken to be the domain of estimation; each zone of a region / special wereda was adopted as a stratum for which major findings of the survey are reported.

#### **2.4 SELECTION SCHEME**

Enumeration areas from each stratum were selected systematically using probability proportional to size sampling technique; size being number of agricultural households. The sizes for EAs were obtained from the 1999 E.C cartographic census frame. From the fresh list of households prepared at the beginning of the survey 30 agricultural households within each sample EA were selected systematically. Estimation procedure of totals, ratios, sampling error and the measurement of precision of estimates (CV) are given in Appendix-I and II respectively.

#### **2.5 Field Organization**

The Central Statistical Agency (CSA) branch statistical office heads, field supervisors and enumerators, other supporting staff and drivers were all involved in the field operation activities of the 2009/10 (2002 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, measuring tape, sample bags...etc). To assist with the fieldwork and data collection activities all available four-wheel drive vehicles were used for supervision and collection of completed questionnaires.

#### **2.6 Training of Field Staff**

At the beginning of the survey year, 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 for one week at CSA's headquarters in Addis Ababa. Those trained in the first stage conducted similar training for field supervisors and enumerators for 20 days in the 25 branch statistical 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, and definitions of terms used, the method of area measurement, interviewing procedures, ... etc. The enumerators' and supervisors' training also included a field practice to reinforce the procedures discussed in the classroom with regard to field area measurement, use of the programmable calculator and crop-cutting techniques.

## 2.7 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 2009/10 (2002 E.C.), Belg crop production 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(short rain) 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, production and yield of major Belg Season crops for the year 2009/10 (2002 E.C.) The data collection period for obtaining the area, production and agricultural practices of the Belg season crops was from 'Ginbot' 15-30, 2002 E.C. (i.e. From May 23 to June 7, 2010). 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 calculated from the condition factor data that are collected directly from the sampled holders within household, peasant association chairpersons and development agents. The enumerators

were trained to systematically present the questions to the respondents on percentage changes using the local translation and meaning. The enumerators were also trained on how to use comparative associations to represent the concept of percentage changes and fill in the questionnaire.

## **2.8 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 thirty four 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 the data entry unit. The editing, coding, verification and data entry of all questionnaires was completed in two weeks time.

### **b. Data Entry, Cleaning and Tabulation**

Before starting data entry computer edit specifications were prepared for use on personal computers, utilizing the CSPRO Software for data consistency checking purposes. The data on the coded questionnaires were then entered into the CSPRO software on personal computers. The data was then checked and cleaned using the computer edit specifications prepared earlier for this purpose. Forty six data encoders and eight supervisors were involved in this total process and it took twenty five days to complete the job. Finally, tabulation was done on personal computers to produce results as indicated in the tabulation plan.

## **2.9 Basic concepts and definitions**

For better understanding and ultimate use of the data presented in this report, the definitions and concepts of technical terms and terminologies used for the collection of all types of data of the **2009/10 (2002 E.C.)** Belg Seasons Crop Production Sample Survey is 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 of 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 troublesome or harmful to crop. Insecticides, herbicides and fungicides are all considered as pesticides.

## CHAPTER III

### III. SUMMARY OF THE RESULTS OF THE 2009/10 (2002 E.C.) FARM MANAGEMENT PRACTICES OF BELG SEASON SURVEY

In this part of the report, the results of the 2009/10 (2002 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 2009/10 (2002 E.C.), Belg Season Crop Production Sample Survey results, it was estimated that Belg season major crops covered 1,244,408.51 hectares of land, where 4,173,450 holders were engaged in the production activity. Of this total area under Belg season crops 663,786 hectares (53.34%) was under the use of improved farm management practices in which 3,091,801 (74.08%) agricultural holders reported for utilizing different agricultural inputs. Moreover, in 2009/10 (2002 E.C.) it was estimated that a total of 126,216 quintals of commercial fertilizer was utilized for Belg season crop production.

**Summary Table A: Total Cropland Area and Number of holders engaged in  
2009/10 (2002 E.C.) belg season crop production activities**

• Belg crop Area in Hectare	1,244,409
• Number of Belg Crop Producing Holders	4,173,450
• Improved Farm Management including practices in Hectare	663,786
• Number of holders reporting the use of farm management practices	3,091,801
• Quantity of commercial fertilizer applied in Quintals	126,216

#### 3.1 Belg Season Cropland Area under Different Farm Management Practices

According to the 2009/10 (2002 E.C.), Belg season Crop Production Sample Survey results, it was estimated that Belg season crops covered about 1,244,408.51 hectares of land. Of this total, about 575,759 hectares (46.27%) was under the use of improved farm management practices. Moreover, of the above mentioned total cropland area under improved farm inputs, about 366,909 hectares (63.73%) was under fertilizer (Both Natural and Commercial), 50,060 hectares (8.69%) was under irrigation, 134,537 hectares (23.37%) was treated with pesticides and 24,253 hectares (4.21%) was under improved seeds. The coverage of the above mentioned farm management practices accounted

for 29.48%, 4.02%, 10.81% and 1.95% of the country level total area under Belg season crops, respectively (See Summary Table B).

*Summary Table B. Cropland Area Under Improved Farm Management Practices;  
For Private Holdings, 2009/10 (2002 E.C.), Belg season*

<i>Country Level</i>			
<i>Farm Mangement Practices</i>	<i>Cropland AREA</i>		<i>% From Country Total</i>
	<i>IN Hectare</i>	<i>%</i>	
<i>IRRIGATION</i>	50,060	8.69	4.02
<i>IMPROVED SEEDS</i>	24,253	4.21	1.95
<i>FERTILIZER</i>	366,909	63.73	29.48
<i>PESTICIDES</i>	134,537	23.37	10.81
<b><i>TOTAL</i></b>	<b>575,759</b>	<b>100.00</b>	<b>46.27</b>

In Summary Table C, below the 2009/10 (2002 E.C.), Belg Season estimates of total cropland area under different farm management practices is presented. As it is indicated in the summary Table, the highest proportion of cropland area under different farm management practices was reported to be covered by Cereals, which accounted for 493,015 hectares (48.64% from the total cereals covered area reported at country level ), followed by pulses with 82410 hectares under improved farm management practices, taking up 37.21% of the total country level pulses covered area.

*Summary Table C. Cropland Area Under Improved Farm Management Practices;  
For Private Holdings, 2009/10 (2002 E.C.), Belg season*

<i>Country Level</i>				
<i>Crop Categorie</i>	<i>Cropland AREA</i>			
	<i>Total</i>		<i>Under IMP. Farm Mgmt Prac.</i>	
	<i>In Hectare</i>	<i>%</i>	<i>In Hectare</i>	<i>% From Total</i>
<i>CEREALS</i>	1,013,668	81.46	493015	48.64
<i>PULSES</i>	221,461	17.80	82410	37.21
<i>OIL CEOPS</i>	9,280	0.75	*	*
<i>GRAINS</i>	1,244,409	100.00	575759	46.27

### 3.2 Fertilizer Applied Cropland Area and Fertilizer Type used

The results of the survey indicate that belg season cropland area under both natural and commercial fertilizers were estimated to be 366,910 hectares, covering 29.48% of the total area under Belg seasons crops of the private holdings. Of the total fertilized area 226,975 hectares (61.86% from the total fertilizer appliedbel cropland area and 18.24% from total country level Belg Cropland area) was reported to be under natural fertilizers. The coverage of commercial

fertilizers was estimated to be 139,935 hectares (38.14 % from the total fertilizer applied area and 11.25% from the country total crop land area), the share of DAP, UREA and the mixture of the two [i.e. DAP + UREA] called as commercial fertilizers altogether constitute 34.63%, 0.84% and 2.68% of the total fertilizer applied crop land area and 10.21%, 0.25% and 0.79% of the total country level reported Belg season cropland area in that order (For details see Summary Table D.)

*Summary Table D:- Fertilizer Applied Cropland Area ;For Private Holdings, 2009/10 (2002 E.C.), Belg season*

<i>Country Level</i>			
<i>Fertilizer Type</i>	<i>Fertilizer Applied AREA</i>		<i>% From</i>
	<i>In Hectare</i>	<i>%</i>	<i>Country Total B.Crop Area</i>
<i>Natural</i>	226,975	61.86	18.24
<i>Commercial</i>	139,935	38.14	11.25
<i>DAP</i>	127,053	34.63	10.21
<i>UREA</i>	3,067	0.84	0.25
<i>DAP + UREA</i>	9,815	2.68	0.79
<i>Total</i>	366,910	100.00	29.48

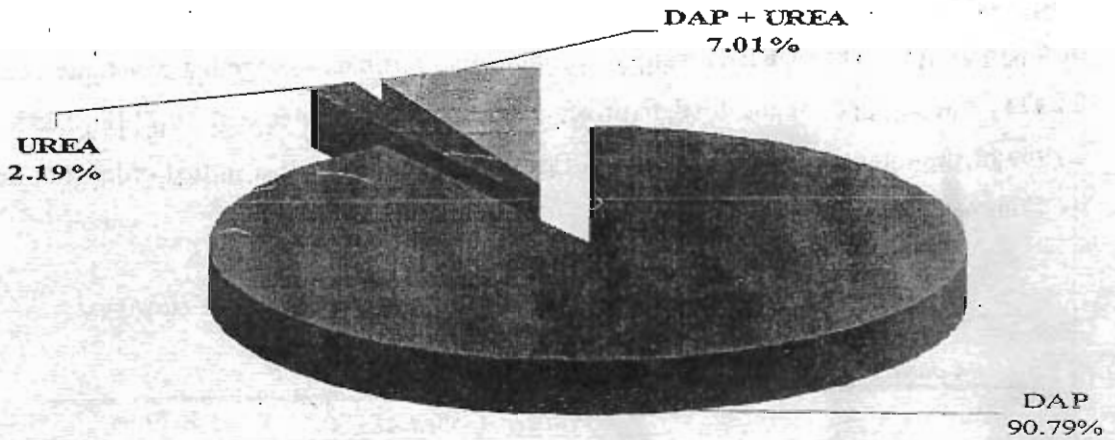
### 3.3.1 Use of Natural Fertilizers

In general, the application of natural fertilizers for Belg season crops in 2009/10 (2002 E.C.), varies from crop to crop. Of the total area under natural fertilizer, the highest proportion was reported for maize crop, which was estimated at 115,805 hectares (51.02%). The fertilized area (natural fertilizer) under haricot beans was the second with an estimated area of 39,282 hectares (17.31%), while area under barley stood third i.e. 28,711 hectares, accounting 12.65% of the total country level natural fertilizer applied Belg season cropland area (see Table 2.1).

### 3.3.2 Use of Commercial Fertilizers

Out of the total cropland area under commercial fertilizers in 2009/10 (2002 E.C.), Belg season, i.e; 139,935 hectare (11.25% of the total Belg season crop area), the area under DAP was the highest which accounted for 127,053 hectare (90.79%), while the the second and third were the mix of the two fertilizers (DAP+UREA) and UREA covering 9,815 hectare (7.01%) and 3,067 hectare (2.19 %) of the total commercial fertilizer applied area, respectively (see Fig 1.)

Figure 1:- Percentage distribution of Chemical Fertilizer Applied Cropland Area by Fertilizer type; For Private Hooldings, 2009/10, Belg Season: Country level



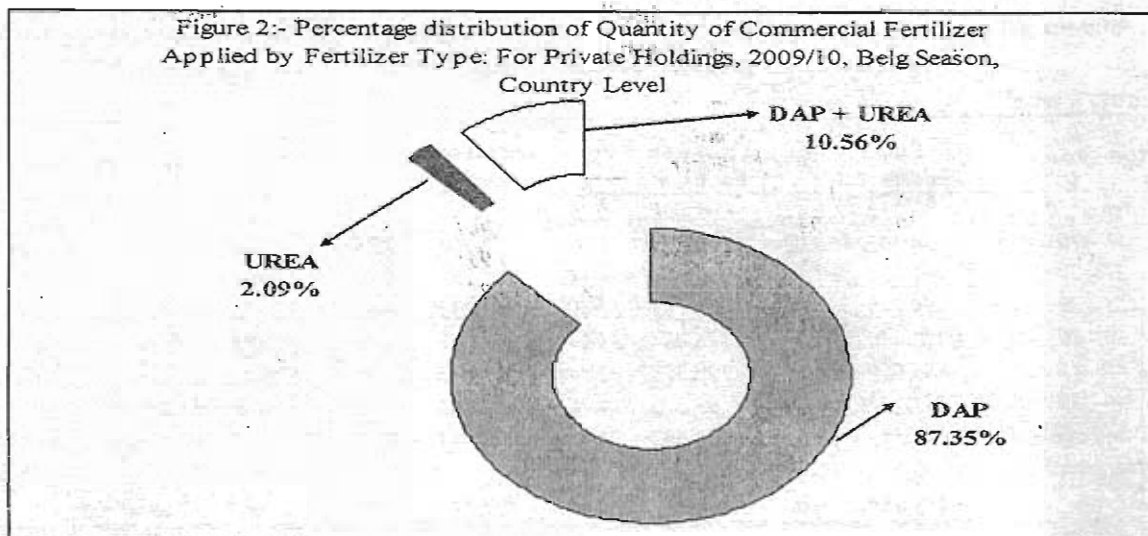
Similarly, the application of commercial fertilizers varied from crop to crop. Of the total area under commercial fertilizers, the highest area was reported for barley at 49,188 hectares (35.15%). The second highest area reported under commercial fertilizers was for maize, i.e., 37,137 hectares (26.54%), followed by haricotbeans with 21,338 hectares, i.e. about 15.25% of the total haricotbean covered area, was under commercial fertilizer, during the 2009/10 Belg season harvest.

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 198,421 hectares (54.08% of the total country level both Natural + Commercial fertilizer applied cropland area), S.N.N.P and Amhara Regions were the second and third in contributing the highest both (Natural and Commercial) fertilizers applied cropland area which were estimated to be 123,974 hectares (33.79%) and 37,936 hectares (10.34%), respectively.

### 3.4 Type and Quantity of Commercial Fertilizer Applied

In 2009/10 (2002 E.C.) the total quantity of commercial fertilizer used for Belg season crop production was estimated at 126,216 quintals. Of this total, the share of DAP was the highest accounting for 87.35% (110,245 quintals). The mixture of the two types of fertilizers (DAP+UREA) was the second highest accounting for 10.56% (13,332 quintals). The last was the share of the Urea, which accounted for 2.09% (2,640 quintals) (See Fig 2).

Figure 2:- Percentage distribution of Quantity of Commercial Fertilizer Applied by Fertilizer Type: For Private Holdings, 2009/10, Belg Season, Country Level



### 3.5 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 earn the economic benefit generated from adopting/practicing the use of modern farm management practices on their holdings, Belg crop producing holders' ages have been categorized into nine groups. These are:

#### The group categories by age

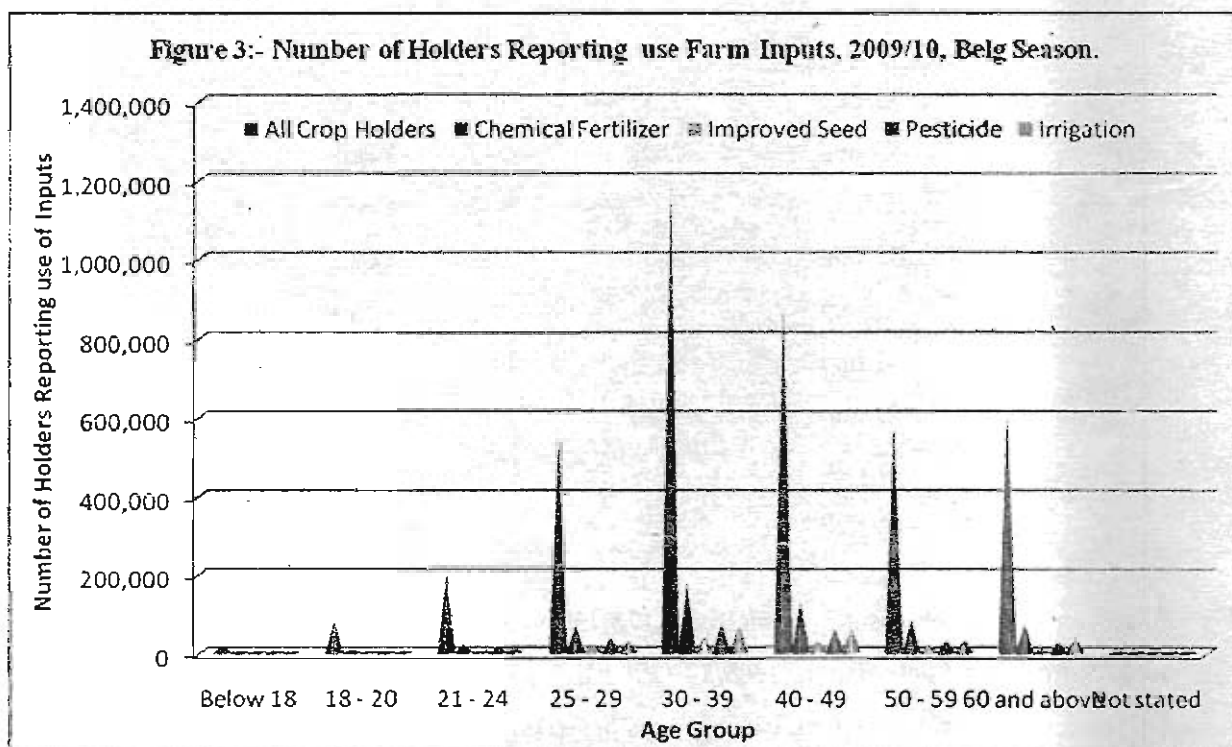
Group	1	-	Under 18 Years
Group	2	-	18-20 Years
Group	3	-	21-24 Years
Group	4	-	25-29 Years
Group	5	-	30-39 Years
Group	6	-	40-49 Years
Group	7	-	50-59 Years
Group	8	-	60 years & above
Group	9	-	not stated

Based on the survey results, a total of 4,173,450 holders were engaged in the over all Belg season agricultural activities in 2009/10 (2002 E.C.) Belg season. As mentioned above, these holders are categorized in to nine age groups based on the age of the holder. Accordingly, the highest number 1,228,430 (29.43%) of holders was estimated to fall in the age group 30-39. The second 88,5059 (21.21%) and third 611,537 (14.65%) highest number of holders fall in the age groups 40-49 and 50 and above, respectively. Moreover, it was estimated that a total of

Summary Table E: Number and percentage distribution of Belg Crop Producing Holders reporting use of Farm Inputs by age group; for private holdings, 2009/10 (2002 E.C.), Belg Season

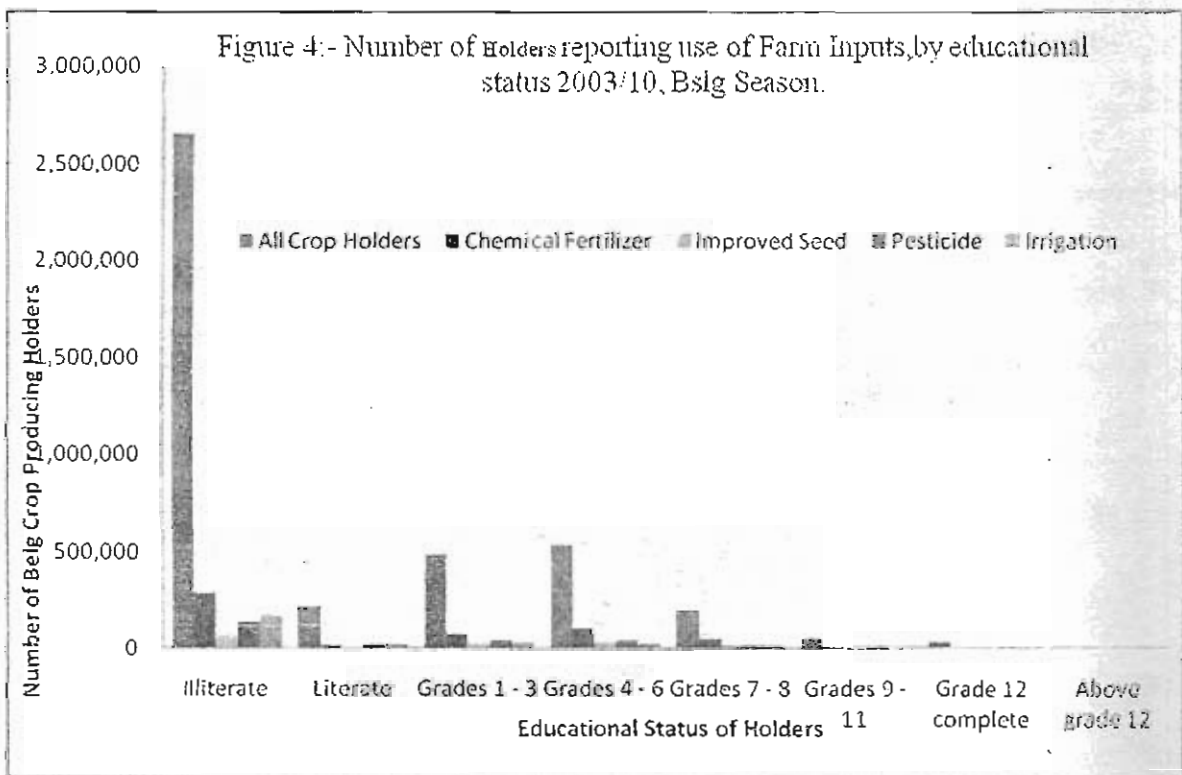
Country level										
Age group	All Crop Holders	%	Chemical Fertilizer	%	Improved Seed	%	Pesticide	%	Irrigation	%
Below 18	17,237	0.41	1,098	0.19	*	*	1,242	0.49	*	*
18 - 20	84,301	2.02	9,599	1.70	2,904	2.33	3,361	1.31	4,518	1.78
21 - 24	201,563	4.83	23,290	4.11	3,951	3.17	17,991	7.04	13,122	5.18
25 - 29	559,219	13.40	70,733	12.49	18,233	14.62	37,376	14.62	31,786	12.55
30 - 39	1,228,430	29.43	176,887	31.24	40,082	32.13	74,453	29.12	68,547	27.07
40 - 49	885,059	21.21	129,313	22.84	28,641	22.96	59,967	23.45	61,297	24.21
50 - 59	583,971	13.99	83,570	14.76	19,861	15.92	31,578	12.35	33,508	13.23
60 and above	611,537	14.65	71,692	12.66	10,643	8.53	29,713	11.62	40,187	15.87
Not stated	2,133	0.05	-	-	-	-	-	-	*	*
<b>Total</b>	<b>4,173,450</b>	<b>100</b>	<b>566,182</b>	<b>100</b>	<b>124,737</b>	<b>100</b>	<b>255,682</b>	<b>100</b>	<b>253,195</b>	<b>100</b>
%	→	100	13.57		2.99		6.13		6.07	

566,182 ; 124,737; 255,682 and 253,195 Belg crop-producing holders ( i.e. about 13.57%; 2.99%; 6.13% and 6.07% of the country total Belg crop producing holders) reported the use of commercial fertilizer, pesticides, improved seed, and irrigation practices, respectively, to obtain higher cop yield (See summary Table E).



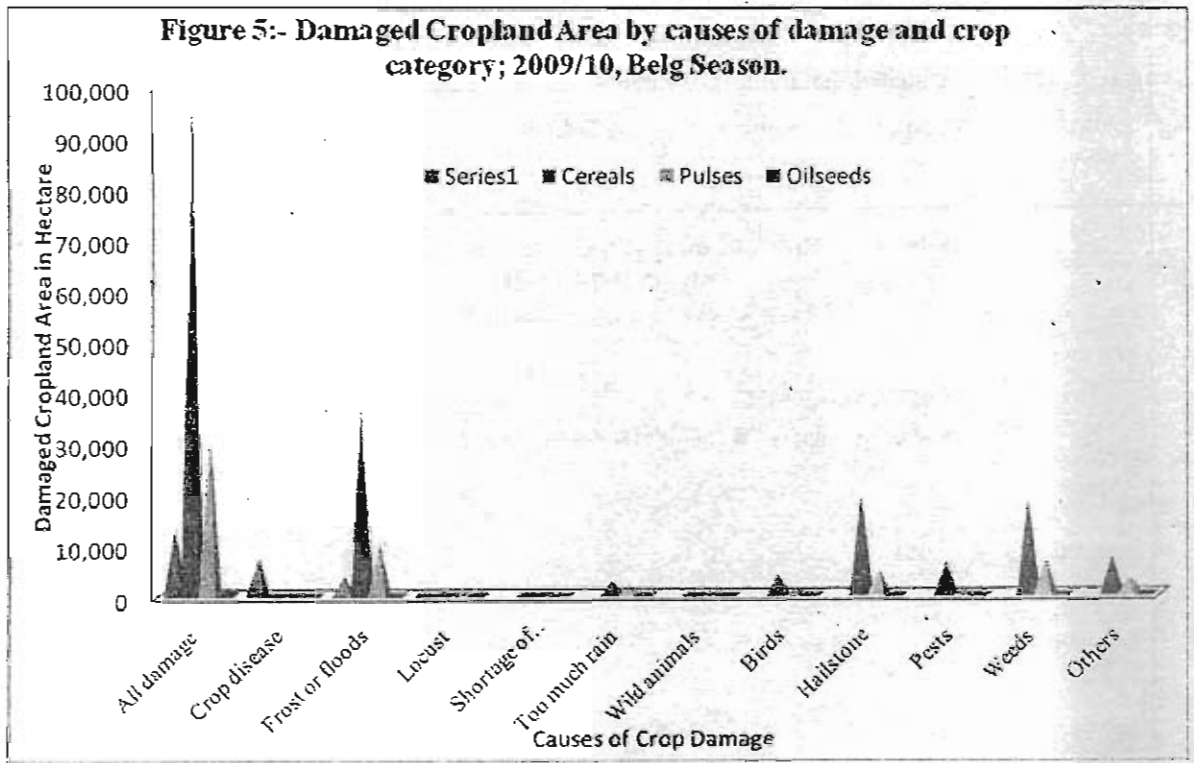
### 3.6 Number of Belg Crop producing Holders reporting use of Improved Farm Management Practices, by Holders' Educational Status

Holders Educational Status plays important role in the adoption of new and improved farming technologies. Therefore, in this report an attempt is made to categorize holders' reporting the use of modern farming practices during the 2009/10 Belg Season Crop Production activities based on their educational status. According to the results of the 2009/10 Belg Season Crop Production Sample Survey, out of the total number i.e. 4,173,450 holders, out of which the highest number of holders who used chemical fertilizers, improved seed, pesticides and irrigation i.e. about 105,874; 27,124 and 38,017 holders were found to have Grade 4 – 6 educational status, however, with regard to irrigation practice, the highest number i.e. 27,222 holders' were found to Grade 1 – 3 educational status. In general, it was also estimated that number of illiterate holders were recorded more in all application of agricultural inputs as compared to number of literate holders.



### 3.7 Number of Holders Reporting Damaged Cropland Area by Causes of Damage

The total number of belg crop producing private peasant holders who reported crop damage and the cause of damage during the year 2009/10 Belg Season Crop Production harvest were estimated to be about 1,413,659 and the damaged cropland area was estimated to be 142,216 hectares. As indicated in Table 4, the highest cropland area was reported for cereals, that is 95,364 hectares, followed by pulses, which is 30,010 hectares and then Oil crops with 1,567 hectares of damaged cropland area. With regard to the causes of crop damage, it is reported that 53,896 hectares was damaged due to frost and/or flood, the second highest crop damage which is estimated at 26,824 hectares was damaged by Weeds. For details, see Table 4 and Fig 5.



# **National and Regional Statistical Tables**

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

Country Level

Crop type	All crop	All Fertilizer		Natural		DAP		
	land Area	Hectare	Quintal	Holder	Hectare	Holder	Hectare	Quintal
All	1,244,409	366,909	126,216	1,871,092	226,975	492,025	127,053	110,245
Cereals	1,013,668	294,950	94,903	1,667,873	176,740	420,410	107,407	83,525
Teff	103,813	15,671	3,504	49,639	8,674	24,313	6,418	3,167
Barley	172,228	77,899	32,253	219,073	28,711	127,731	48,522	31,354
Wheat	66,061	28,451	14,926	78,053	9,147	60,745	19,264	14,885
Maize	577,990	152,942	40,420	1,434,633	115,805	262,712	27,686	30,501
Sorghum	76,999	13,482	522	54,745	*	5,509	203	339
Finger millet	1,164	284	*	4,597	253	*	*	*
Oats/ 'Aja'	13,884	6,221	3,164	16,233	939	17,929	5,282	3,164
Rice	*	-	-	-	-	-	-	-
Pulse	221,461	71,682	31,268	754,394	49,989	241,249	19,615	26,675
Horse/Faba beans	1,499	285	*	10,637	217	*	*	*
Field peas	32,398	8,124	*	42,420	7,972	*	*	*
Haricot beans	165,987	60,620	31,038	692,385	39,282	237,098	19,315	26,482
Chick peas	12,259	2,098	*	8,550	2,039	*	*	*
Lentiles	5,786	430	*	5,099	379	*	*	*
Vetch/Grass peas	1,654	*	*	1,770	*	*	*	*
Soya beans	*	*	*	*	*	-	-	-
Fenugreek	*	*	*	1,738	*	*	*	*
Gibto	-	-	-	-	-	-	-	-
Oile seeds	9,280	277	*	9,938	246	*	*	*
Nueg	*	-	-	-	-	-	-	-
Linseed	408	*	-	1,422	*	-	-	-
Ground nuts	*	181	*	6,882	150	*	*	*
Safflower	468	*	-	*	*	-	-	-
Sesame	5,451	*	-	*	*	-	-	-
Rapeseed	*	*	-	*	*	-	-	-

Table 1(Cont'd)

Country Level

Crop type	UREA			UREA + DAP			Indigenous seed		
	Holder	Hectare	Quintal	Holder	Hectare	Quintal	Holder	Hectare	Quintal
All	24,696	3,067	2,640	70,374	9,815	13,332	4,007,973	1,166,387	799,278
Cereals	20,791	2,656	2,204	59,082	8,148	9,174	3,571,102	951,074	691,453
Teff	1,780	*	*	1,995	131	*	328,579	101,912	39,439
Barley	*	*	*	2,840	277	324	718,555	168,725	289,429
Wheat	*	*	*	*	*	*	288,437	64,581	130,648
Maize	15,807	1,749	1,351	55,306	1,701	8,568	2,842,096	525,484	192,959
Sorghum	356	31	*	856	37	145	185,068	73,929	13,074
Finger millet	-	-	-	-	-	-	13,925	1,148	602
Oats/ 'Aja'	-	-	-	-	-	-	73,643	13,766	23,758
Rice	-	-	-	-	-	-	*	*	*
Pulse	6,927	411	435	36,408	1,667	4,158	1,789,004	206,243	106,471
Horse/Faba beans	-	-	-	-	-	-	37,349	1,355	877
Field peas	-	-	-	-	-	-	159,954	32,216	32,852
Haricot beans	6,511	387	421	36,024	1,636	4,135	1,547,869	151,231	45,120
Chick peas	*	*	*	*	*	*	65,726	12,185	*
Lentiles	-	-	-	-	-	-	42,051	5,748	*
Vetch/Grass peas	-	-	-	-	-	-	12,815	1,646	1,271
Soya beans	-	-	-	*	*	*	*	*	*
Fenugreek	-	-	-	*	*	*	12,675	*	*
Gibto	-	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	-	-	-	53,811	9,070	1,355
Nueg	-	-	-	-	-	-	*	*	*
Linseed	-	-	-	-	-	-	8,368	348	115
Ground nuts	-	-	-	-	-	-	18,287	*	661
Safflower	-	-	-	-	-	-	8,589	468	*
Sesame	-	-	-	-	-	-	18,889	*	*
Rapeseed	-	-	-	-	-	-	1,667	*	*

Table 1(Cont'd)

## Country Level

Crop type	Improved seed			Pesticide		Irrigation		Extension package	
	Holder	Hectare	Quintal	Holder	Hectare	Holder	Hectare	Holder	Hectare
All	124,737	24,253	7,679	255,682	134,537	253,195	50,060	223,489	88,027
Cereals	119,734	24,032	7,213	240,774	126,841	242,203	47,192	206,930	81,430
Teff	*	*	*	75,124	35,530	*	*	19,290	7,099
Barley	6,117	899	*	113,055	41,608	*	1,810	62,810	29,370
Wheat	*	*	*	84,936	27,603	*	*	28,253	11,212
Maize	111,829	22,621	5,858	38,206	9,029	229,097	44,175	125,200	28,035
Sorghum	*	*	*	8766	*	*	720	*	*
Finger millet	-	-	-	*	*	*	*	-	-
Oats/ 'Aja'	-	-	-	27,470	7,134	-	-	-	-
Rice	*	*	*	*	*	-	-	*	*
Pulse	6,126	221	*	22,347	7641	23,112	2,866	53,522	6,283
Horse/Faba beans	*	*	*	*	*	*	*	*	*
Field peas	*	*	*	*	*	*	*	*	*
Haricot beans	5,220	200	*	10,060	*	9,807	587	41,281	2,993
Chick peas	-	-	-	*	*	*	*	*	*
Lentiles	-	-	-	*	*	*	*	*	*
Vetch/Grass peas	-	-	-	*	*	*	*	*	*
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	*	*	*	*	1938	*
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
All	13,858	4,027	*	*	3,153	*	*	*
Cereals	12,594	3,071	*	*	*	-	-	-
Teff	*	*	-	*	*	-	-	-
Barley	*	*	*	*	*	-	-	-
Wheat	*	*	-	*	*	-	-	-
Maize	*	2,313	*	*	*	-	-	-
Sorghum	*	-	-	-	-	-	-	-
Finger millet	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-
Rice	*	-	-	-	-	-	-	-
Pulse	*	*	*	*	*	*	*	*
Horse/Faba beans	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-
Horicot beans	-	-	-	-	-	-	-	-
Chick peas	*	*	*	*	*	*	*	*
Lentiles	*	*	*	*	*	*	*	*
Vetch/Grass peas	*	*	-	*	*	-	-	-
Soya beans	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	-	-	-	-	-
Nueg	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-

Table 1.1 (Cont'd)

## Tigray Region

Crop type	UREA			UREA + DAP			Indigenous seed		
	Holder	Hectare	Quintal	Holder	Hectare	Quintal	Holder	Hectare	Quintal
All	*	*	*	*	*	*	41,667	13,851	6,055
Cereals	*	*	*	*	*	*	36,309	12,587	5,062
Teff	-	-	-	-	-	-	*	*	*
Barley	*	*	*	-	-	-	*	*	*
Wheat	-	-	-	-	-	-	*	*	*
Maize	*	*	*	*	*	*	24,395	*	1,598
Sorghum	-	-	-	-	-	-	*	*	*
Finger millet	-	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-
Rice	*	*	*	*	*	*	*	*	*
Pulse	*	*	*	*	*	*	*	*	*
Horse/Faba beans	-	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-	-
Haricot beans	-	-	-	-	-	-	-	-	-
Chick peas	*	*	*	*	*	*	*	*	*
Lentiles	-	-	-	-	-	-	*	*	*
Vetch/Grass peas	-	-	-	-	-	-	*	*	*
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oil seeds	-	-	-	-	-	-	-	-	-
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-

Table 1.1 (Cont'd)

## Tigray Region

Crop type	Improved seed			Pesticide		Irrigation		Extension package	
	Holder	Hectare	Quintal	Holder	Hectare	Holder	Hectare	Holder	Hectare
All	*	*	*	*	*	30,578	3,886	9,079	1,956
Cereals	*	*	*	*	*	*	2,723	4,834	1,280
Teff	-	-	-	-	-	-	-	*	*
Barley	*	*	*	*	*	*	*	*	*
Wheat	-	-	-	-	-	*	*	-	-
Maize	-	-	-	-	-	*	2,064	*	*
Sorghum	-	-	-	-	-	-	-	-	-
Finger millet	-	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-	-
Pulse	-	-	-	-	-	*	*	*	*
Horse/Faba beans	-	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-	-
Haricot beans	-	-	-	-	-	-	-	-	-
Chick peas	-	-	-	-	-	*	*	*	*
Lentiles	-	-	-	-	-	*	*	*	*
Vetch/Grass peas	-	-	-	-	-	*	*	-	-
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oil 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		Notural		DAP		
		Hectare	Quintal	Holder	Hectare	Holder	Hectare	Quintal
All	18,143	-	-	-	-	-	-	-
Cereals	17,979	-	-	-	-	-	-	-
Teff	*	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-
Wheat	*	-	-	-	-	-	-	-
Maize	17,560	-	-	-	-	-	-	-
Sorghum	*	-	-	-	-	-	-	-
Finger millet	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-
Pulse	*	-	-	-	-	-	-	-
Horse/Fobo 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 (Cont'd)

Afar Region

Crop type	UREA			UREA + DAP			'Indigenous seed		
	Holder	Hectare	Quintal	Holder	Hectare	Quintal	Holder	Hectare	Quintal
All	-	-	-	-	-	-	14,345	17,152	4,691
Cereals	-	-	-	-	-	-	14,300	16,987	4,665
Teff	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-
Maize	-	-	-	-	-	-	13,126	16,568	4,494
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 1.2 (Cont'd)

## Afar Region

Crop type	Improved seed			Pesticide		Irrigation		Extension package	
	Holder	Hectare	Quintal	Holder	Hectare	Holder	Hectare	Holder	Hectare
All	*	*	*	*	*	14,693	17,623	*	*
Cereals	*	*	*	*	*	14,693	17,622	*	*
Teff	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	*	*	*	*
Maize	*	*	*	*	*	14,562	17,486	*	*
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
All	136,924	37,936	2,791	202,041	34,484	*	*	2,341
Cereals	95,487	33,725	2,791	198,453	30,273	*	*	2,341
Teff	13,259	3,334	*	31,865	3,180	-	-	-
Barley	54,297	15,093	*	87,480	12,863	*	*	*
Wheat	9,190	4,921	*	47,539	4,882	-	-	-
Maize	17,256	9,482	*	93,344	8,453	*	*	*
Sorghum	*	*	-	*	*	-	-	-
Finger millet	*	*	-	*	*	-	-	-
Oats/ 'Aja'	939	728	-	13,503	728	-	-	-
Rice	-	-	-	-	-	-	-	-
Pulse	41,325	4,197	-	24,970	4,197	-	-	-
Horse/Faba beans	*	*	-	*	*	-	-	-
Field peas	7,021	*	-	*	*	-	-	-
Haricot beans	*	*	-	*	*	-	-	-
Chick peas	10,194	*	-	4,888	*	-	-	-
Lentiles	*	274	-	4,075	274	-	-	-
Vetch/Grass peas	*	*	-	*	*	-	-	-
Soya beans	*	-	-	-	-	-	-	-
Fenugreek	238	*	-	*	*	-	-	-
Gibto	-	-	-	-	-	-	-	-
Oile seeds	113	*	-	*	*	-	-	-
Nueg	*	-	-	-	-	-	-	-
Linseed	69	*	-	*	*	-	-	-
Ground nuts	-	-	-	-	-	-	-	-
Safflower	*	*	-	*	*	-	-	-
Sesame	*	*	-	*	*	-	-	-
Rapeseed	*	-	-	-	-	-	-	-

Table 1.3 (Cont'd)

## Amhara Region

Crop type	UREA			UREA + DAP			Indigenous seed		
	Holder	Hectare	Quintal	Holder	Hectare	Quintal	Holder	Hectare	Quintal
All	*	363	253	*	*	*	453,406	134,298	138,316
Cereals	*	363	253	*	*	*	418,084	93,021	103,608
Teff	*	*	*	*	*	*	88,244	13,175	3,819
Barley	*	*	*	-	-	-	213,475	53,996	79,075
Wheat	*	*	*	-	-	-	82,576	9,156	13,713
Maize	*	*	*	*	*	*	153,067	15,512	4,993
Sorghum	-	-	-	-	-	-	*	*	-
Finger millet	-	-	-	-	-	-	*	*	*
Oats/ 'Aja'	-	-	-	-	-	-	17,556	939	1,681
Rice	-	-	-	-	-	-	*	-	*
Pulse	-	-	-	-	-	-	145,976	41,197	34,678
Horse/Faba beans	-	-	-	-	-	-	*	*	*
Field peas	-	-	-	-	-	-	43,147	7,018	7,177
Haricot beans	-	-	-	-	-	-	46,675	*	3,979
Chick peas	-	-	-	-	-	-	51,632	10,122	*
Lentiles	-	-	-	-	-	-	25,131	*	*
Vetch/Grass peas	-	-	-	-	-	-	9,851	*	*
Soya beans	-	-	-	-	-	-	*	*	*
Fenugreek	-	-	-	-	-	-	5,405	238	*
Gibto	-	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	-	-	-	4,784	81	*
Nueg	-	-	-	-	-	-	*	*	*
Linseed	-	-	-	-	-	-	2,588	49	*
Ground nuts	-	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	*	*	*
Sesame	-	-	-	-	-	-	*	*	-
Rapeseed	-	-	-	-	-	-	*	*	-

Table 1.3 (Cont'd)

## Amhara Region

Crop type	Improved seed			Pesticide		Irrigation		Extension package	
	Holder	Hectare	Quintal	Holder	Hectare	Holder	Hectare	Holder	Hectare
All	3,865	394	*	19175	7127	61,666	7,971	42,212	9,695
Cereals	3,556	390	*	9451	1533	59,839	6,896	38,604	7,205
Teff	*	*	*	3903	811	*	*	4159	789
Barley	1,766	*	*	*	*	2,919	*	21070	*
Wheat	*	*	-	*	*	*	*	*	*
Maize	*	*	*	*	*	56,354	6,094	*	859
Sorghum	-	-	-	*	*	-	-	-	-
Finger millet	-	-	-	-	-	*	*	-	-
Oats/ 'Aja'	-	-	-	*	*	-	-	-	-
Rice	-	-	-	-	-	-	-	-	-
Pulse	*	*	-	13484	5594	*	*	*	*
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 1.4: 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
All	672,710	198,421	54,877	673,436	115,603	160,519	81,132	53,541
Cereals	563,985	166,998	53,803	523,776	86,577	151,297	79,015	52,642
Teff	73,208	9,235	*	10,203	4,391	10,779	4,581	*
Barley	109,183	59,752	29,847	82,732	13,406	108,523	46,081	29,523
Wheat	55,959	23,259	14,884	25,191	3,999	60,533	19,260	14,884
Maize	270,813	60,204	3,371	427,669	55,602	18,219	3,725	2,638
Sorghum	41,823	*	*	*	*	*	*	*
Finger millet	*	*	*	-	-	*	*	*
Oats/ 'Aja'	12,815	5,490	3,164	*	*	17,929	5,282	3,164
Rice	-	-	-	-	-	-	-	-
Pulse	105,698	31,423	1,074	226,053	29,026	12,563	2,117	899
Harse/Faba beans	549	*	*	2,458	*	*	*	*
Field peas	24,918	6,128	*	25,917	5,985	*	*	*
Haricot beans	75,508	25,041	964	197,253	22,876	9,770	1,884	789
Chick peas	*	-	-	-	-	-	-	-
Lentiles	2,173	*	*	*	*	*	*	*
Vetch/Grass peas	*	*	-	*	*	-	-	-
Soya beans	-	-	-	-	-	-	-	-
Fenugreek	*	*	-	*	*	-	-	-
Gibto	-	-	-	-	-	-	-	-
Oile seeds	*	-	-	-	-	-	-	-
Nueg	*	-	-	-	-	-	-	-
Linseed	309	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-
Sesame	*	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-

Table 1.4 (Cont'd)

Oromia Region

Crop type	UREA			UREA + DAP			Indigenous seed		
	Holder	Hectare	Quintal	Holder	Hectare	Quintal	Holder	Hectare	Quintal
All	11,337	1,351	942	2,260	335	393	1,759,870	636,602	526,296
Cereals	9,401	1,173	878	*	*	*	1,590,298	541,673	474,740
Teff	*	*	*	-	-	-	172,587	71,427	26,875
Barley	*	*	*	*	*	*	400,188	106,253	203,342
Wheat	-	-	-	-	-	-	193,594	54,546	116,088
Maize	7,232	788	*	*	*	*	1,197,663	256,038	100,413
Sorghum	-	-	-	-	-	-	73,981	40,532	5,683
Finger millet	-	-	-	-	-	-	-	-	*
Oats/ 'Aja'	-	-	-	-	-	-	54,625	12,701	22,042
Rice	-	-	-	-	-	-	-	-	-
Pulse	*	*	*	*	*	*	562,795	91,988	51,118
Horse/Faba beans	-	-	-	-	-	-	16,013	455	415
Field peas	-	-	-	-	-	-	107,078	24,771	25,530
Haricot beans	*	*	*	*	*	*	442,566	62,047	22,019
Chick peas	-	-	-	-	-	-	7,454	*	*
Lentiles	-	-	-	-	-	-	16,068	2,169	*
Vetch/Grass peas	-	-	-	-	-	-	1,854	*	206
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	*	*
Gibto	-	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	-	-	-	-	*	*
Nueg	-	-	-	-	-	-	-	*	*
Linseed	-	-	-	-	-	-	3,648	271	78
Ground nuts	-	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	*	*
Rapeseed	-	-	-	-	-	-	-	-	-

Table 1.4 (Cont'd)

## Oromia Region

Crop type	Improved seed			Pesticide		Irrigation		Extension package	
	Holder	Hectare	Quintal	Holder	Hectare	Holder	Hectare	Holder	Hectare
All	16,909	3,660	2,376	210,496	120,969	124,561	15,723	95,082	54,555
Cereals	13,817	3,560	1,941	207,942	119,160	120,754	15,262	89,331	53,100
Teff	*	*	*	64,463	32,940	-	-	*	*
Barley	3,428	666	*	109,288	41,238	4,601	*	40,112	24,024
Wheat	*	*	*	81,691	27,153	-	-	26,124	10794
Maize	9,307	2,490	661	*	*	118,051	14,427	35,159	7,339
Sorghum	-	-	-	-	-	-	-	-	*
Finger millet	-	-	-	*	*	-	-	-	-
Oats/ 'Aja'	-	-	-	27,030	7,127	-	-	-	-
Rice	-	-	-	-	-	-	-	-	-
Pulse	3,092	*	*	5,785	1809	5,672	460	7,149	*
Horse/Faba beans	*	*	-	-	-	-	-	-	-
Field peas	*	*	*	*	*	-	-	-	-
Haricot beans	*	*	*	*	*	5,071	375	6,783	*
Chick peas	-	-	-	-	-	-	-	-	-
Lentiles	-	-	-	*	*	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	*	*	-	-
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oil 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
All	4,726	97	-	1,511	*	*	*	-
Cereals	4,489	86	-	1,457	*	*	*	-
Teff	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	*	-	-
Wheat	*	-	-	-	-	-	-	-
Maize	4,147	*	-	1,457	*	*	*	-
Sorghum	*	*	-	*	*	-	-	-
Finger millet	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-
Pulse	223	11	-	860	11	-	-	-
Horse/Faba beans	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-
Haricot beans	223	11	-	860	11	-	-	-
Chick peas	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-
Oil seeds	*	-	-	-	-	-	-	-
Nueg	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-
Sesame	*	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-

Table 1.5 (Cont'd)

## Somale Region

Crop type	UREA			UREA + DAP			Indigenous seed		
	Holder	Hectare	Quintal	Holder	Hectare	Quintal	Holder	Hectare	Quintal
All	-	-	-	-	-	-	17,094	4,646	2,114
Cereals	-	-	-	-	-	-	16,777	4,409	2,036
Teff	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-
Maize	-	-	-	-	-	-	15,384	4,067	1,884
Sorghum	-	-	-	-	-	-	-	-	-
Finger millet	-	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-	-
Pulse	-	-	-	-	-	-	3,090	223	77
Horse/Faba beans	-	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-	-
Haricot beans	-	-	-	-	-	-	3,090	223	77
Chick peas	-	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-
Giblo	-	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	-	-	-	-	-	-
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-

Table 1.5 (Cont'd)

## Somale Region

Crop type	Improved seed			Pesticide			Irrigation		Extension package	
	Holder	Hectare	Quintal	Holder	Hectare	Holder	Hectare	Holder	Hectare	
All	*	*	*	*	*	*	*	*	*	
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	-	-	-	-	-	-	-	-	-	
Giblo	-	-	-	-	-	-	-	-	-	
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
All	2,670	1,195	*	7,877	1,177	*	*	*
Cereals	1,400	638	*	6,777	632	*	*	*
Teff	-	-	-	-	-	-	-	-
Barley	*	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-
Maize	1,272	633	*	6,777	627	*	*	*
Sorghum	*	*	-	*	*	-	-	-
Finger millet	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-
Pulse	1,268	555	*	7,847	543	*	*	*
Horse/Faba beans	*	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-
Haricot beans	1,255	555	*	7,847	543	*	*	*
Chick peas	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-
Oile seeds	*	*	-	*	*	-	-	-
Nueg	-	-	-	-	-	-	-	-
Linseed	*	*	-	*	*	-	-	-
Ground nuts	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-

Table 1.6 (Cont'd)

Benshangul-Gumuz Region

Crop type	UREA			UREA + DAP			Indigenous seed		
	Holder	Hectare	Quintal	Holder	Hectare	Quintal	Holder	Hectare	Quintal
All	*	*	*	*	*	*	15,644	1,290	400
Cereals	*	*	*	-	-	-	2,827	104	26
Teff	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	*	*	*
Wheat	-	-	-	-	-	-	-	-	-
Maize	*	*	*	-	-	-	2,768	102	24
Sorghum	-	-	-	-	-	-	-	-	-
Finger millet	-	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-	-
Pulse	-	-	-	*	*	*	15,026	1,185	373
Horse/Faba beans	-	-	-	-	-	-	*	*	*
Field peas	-	-	-	-	-	-	-	-	-
Haricot beans	-	-	-	*	*	*	15,026	1,172	368
Chick peas	-	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oile seeds	-	-	-	-	-	-	-	-	-
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-

Table 1.6 (Cont'd)

## Benshangul-Gumuz-Region

Crop type	Improved seed			Pesticide		Irrigation		Extension package	
	Holder	Hectare	Quintal	Holder	Hectare	Holder	Hectare	Holder	Hectare
All	*	*	*	*	*	2,687	132	*	*
Cereals	-	-	-	-	-	2,687	100	*	*
Teff	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-
Maize	-	-	-	-	-	2,687	100	*	*
Sorghum	-	-	-	-	-	-	-	-	-
Finger millet	-	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-	-
Pulse	*	*	*	*	*	1,850	32	-	-
Horse/Faba beans	-	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-	-
Haricot beans	*	*	*	*	*	1,850	32	-	-
Chick peas	-	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oil 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
All	386,287	123,974	66,957	951,733	71,463	309,359	42,891	54,152
Cereals	309,520	89,412	37,186	906,802	56,042	247,482	25,414	28,459
Teff	12,128	2,825	989	6,952	826	13,535	1,837	876
Barley	7,912	2,628	435	42,117	2,192	7,898	303	261
Wheat	769	215	*	4,230	209	*	*	*
Maize	255,288	79,509	35,430	880,289	48,727	233,459	23,143	27,061
Sorghum	31,170	*	*	37,545	*	4,958	*	*
Finger millet	755	*	-	*	*	-	-	-
Oats/ 'Ajo'	*	*	-	*	*	-	-	-
Rice	*	-	-	-	-	-	-	-
Pulse	70,771	34,307	29,742	487,591	15,194	227,708	17,450	25,663
Horse/Faba beans	885	162	*	7,306	137	*	*	*
Field peas	459	*	*	2,407	*	*	*	*
Haricot beans	69,351	34,055	29,650	479,789	15,000	226,698	17,401	25,586
Chick peas	*	*	-	*	*	-	-	-
Lentiles	*	-	-	-	-	-	-	-
Vetch/Grass peas	*	*	*	*	*	*	*	*
Soya beans	*	*	*	*	*	-	-	-
Fenugreek	14	13	*	*	*	*	*	*
Gibto	-	-	-	-	-	-	-	-
Oil seeds	5,996	255	*	8,436	227	*	*	*
Nueg	*	-	-	-	-	-	-	-
Linseed	*	*	-	*	*	-	-	-
Ground nuts	*	175	*	6,856	147	*	*	*
Safflower	449	*	-	*	*	-	-	-
Sesame	*	*	-	*	*	-	-	-
Rapeseed	*	*	-	*	*	-	-	-

Table 1.7 (Cont'd)

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

Crop type	UREA			UREA + DAP			Indigenous seed		
	Holder	Hectare	Quintal	Holder	Hectare	Quintal	Holder	Hectare	Quintal
All	7,504	1,012	808	62,699	8,608	11,998	1,662,706	349,929	118,840
Cereals	6,331	858	624	53,060	7,098	8,103	1,451,614	274,491	98,887
Teff	*	*	*	1,860	104	74	58,319	12,093	6,845
Barley	-	-	-	2,124	*	*	94,064	7,649	6,392
Wheat	-	-	-	*	*	*	11,001	737	700
Maize	5,905	802	584	50,210	6,837	7,785	1,396,259	221,784	77,203
Sorghum	-	-	-	*	*	*	98,470	29,986	6,268
Finger millet	-	-	-	-	-	-	10,007	749	*
Oats/ 'Aja'	-	-	-	-	-	-	*	*	*
Rice	-	-	-	-	-	-	*	*	*
Pulse	3,626	153	184	34,465	1,510	3,895	1,041,584	69,531	19,101
Horse/Faba beans	-	-	-	-	-	-	20,453	839	399
Field peas	-	-	-	-	-	-	9,694	427	146
Haricot beans	3,626	153	184	34,465	1,500	3,879	1,027,015	68,213	18,552
Chick peas	-	-	-	-	-	-	*	*	*
Lentiles	-	-	-	-	-	-	*	*	*
Vetch/Grass peas	-	-	-	-	-	-	*	*	*
Soya beans	-	-	-	*	*	*	*	*	*
Fenugreek	-	-	-	-	-	-	1,568	*	2
Gibto	-	-	-	-	-	-	-	-	-
Oil seeds	-	-	-	-	-	-	35,972	5,907	852
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	2,132	*	*
Ground nuts	-	-	-	-	-	-	17,674	*	*
Safflower	-	-	-	-	-	-	7,863	448	*
Sesame	-	-	-	-	-	-	9,911	*	205
Rapeseed	-	-	-	-	-	-	1,225	*	-

Table 1.7 (Cont'd)

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

Crop type	Improved seed			Pesticide		Irrigation		Extension package	
	Holder	Hectare	Quintal	Holder	Hectare	Holder	Hectare	Holder	Hectare
All	101,439	19,253	4,891	22,105	5,412	*	*	74,391	20,117
Cereals	99,990	19,152	4,870	19,741	5,165	*	*	71,482	18,152
Teff	-	-	-	6,757	1,779	-	-	*	*
Barley	-	-	-	2,732	274	-	-	*	*
Wheat	-	-	-	*	*	-	-	*	*
Maize	99,420	19,133	4,851	8,749	2027	*	*	69,423	17,308
Sorghum	*	*	-	*	*	*	*	*	*
Finger millet	-	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-
Rice	-	-	-	*	*	-	-	-	-
Pulse	2,573	102	*	2,785	192	2,310	*	33,688	1,923
Horse/Faba beans	-	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-	-
Haricot beans	2,573	102	*	2,785	192	2,310	*	33,688	1,923
Chick peas	-	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oil seeds	-	-	-	*	*	-	-	*	*
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	*	*	-	-	*	*
Safflower	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-

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

Gambella Region

Crop type	All crop land Area	All Fertilizer		Natural		DAP		
		Hectare	Quintal	Holder	Hectare	Holder	Hectare	Quintal
All	7,377	47	*	442	*	-	-	-
Cereals	6,774	43	*	442	*	-	-	-
Teff	*	-	-	-	-	-	-	-
Barley	*	*	-	*	*	-	-	-
Wheat	*	-	-	-	-	-	-	-
Maize	6,640	40	*	387	*	-	-	-
Sorghum	*	*	-	*	*	-	-	-
Finger millet	40	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-
Rice	*	-	-	-	-	-	-	-
Pulse	479	*	-	*	*	-	-	-
Horse/Faba beans	*	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-
Haricot beans	470	*	-	*	*	-	-	-
Chick peas	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-
Oil seeds	*	*	-	*	*	-	-	-
Nueg	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-
Ground nuts	*	*	-	*	*	-	-	-
Safflower	-	-	-	-	-	-	-	-
Sesame	*	-	-	-	-	-	-	-
Rapeseed	*	-	-	-	-	-	-	-

Table 1.8 (Cont'd)

Gambella Region

Crop type	UREA			UREA + DAP			Indigenous seed		
	Holder	Hectare	Quintal	Holder	Hectare	Quintal	Holder	Hectare	Quintal
All	*	*	*	-	-	-	27,526	7,200	2,262
Cereals	*	*	*	-	-	-	27,388	6,613	2,156
Teff	-	-	-	-	-	-	*	*	*
Barley	-	-	-	-	-	-	97	*	*
Wheat	-	-	-	-	-	-	*	*	*
Maize	*	*	*	-	-	-	27,312	6,482	2,131
Sorghum	-	-	-	-	-	-	*	*	*
Finger millet	-	-	-	-	-	-	412	40	15
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-	-
Pulse	-	-	-	-	-	-	8,188	463	*
Horse/Faba beans	-	-	-	-	-	-	*	*	*
Field peas	-	-	-	-	-	-	-	-	-
Haricot beans	-	-	-	-	-	-	8,071	454	*
Chick peas	-	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oil seeds	-	-	-	-	-	-	*	*	*
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	*	*	*
Safflower	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	*	*	*
Rapeseed	-	-	-	-	-	-	*	*	*

Table 1.8 (Cont'd)

## Gambella Region

Crop type	Improved seed			Pesticide		Irrigation		Extension package	
	Holder	Hectare	Quintal	Holder	Hectare	Holder	Hectare	Holder	Hectare
All		227	34	11	3046	920	*	*	*
Cereals		227	34	11	3046	920	*	*	*
Teff		-	-	-	-	-	-	-	-
Barley		-	-	-	-	-	-	-	-
Wheat		-	-	-	-	-	-	-	-
Maize		200	30	10	3046	898	*	*	*
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

## Harari Region

Crop type	All crop land Area	All Fertilizer		Natural		DAP		
		Hectare	Quintal	Holder	Hectare	Holder	Hectare	Quintal
All	871	644	791	3,771	405	630	64	202
Cereals	602	411	352	3,375	281	463	34	80
Teff	-	-	-	-	-	-	-	-
Barley	*	*	-	*	*	-	-	-
Wheat	-	-	-	-	-	-	-	-
Maize	356	224	185	2,564	162	264	*	*
Sorghum	244	186	167	1,217	118	*	*	*
Finger millet	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-
Pulse	265	230	423	2,796	124	531	27	106
Horse/Faba beans	-	-	-	-	-	-	-	-
Field peas	-	-	*	-	-	-	-	-
Haricot beans	265	230	422	2,796	124	531	27	106
Chick peas	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-
Oile seeds	*	*	*	-	-	*	*	*
Nueg	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-
Ground nuts	*	*	*	-	-	*	*	*
Safflower	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-

Table 1.9 (Cont'd)

## Harari Region

Crop type	UREA			UREA + DAP			Indigenous seed		
	Holder	Hectare	Quintal	Holder	Hectare	Quintal	Holder	Hectare	Quintal
All		949	109		499		6,133	601	99
Cereals		568	53		395		3,924	373	65
Teff		-	-		-		-	-	-
Barley		-	-		-		-	-	-
Wheat		-	-		-		-	-	-
Maize		246					3,327	280	64
Sorghum		356	31				1,022		
Finger millet		-	-		-		-	-	-
Oats/ 'Aja'		-	-		-		-	-	-
Rice		-	-		-		-	-	-
Pulse		949			394		4,469	224	34
Horse/Faba beans		-	-		-		-	-	-
Field peas		-	-		-		-	-	-
Haricot beans		949			359		4,434	224	34
Chick peas		-	-		-		-	-	-
Lentiles		-	-		-		-	-	-
Vetch/Grass peas		-	-		-		-	-	-
Soya beans		-	-		-		-	-	-
Fenugreek		-	-		-		-	-	-
Gibto		-	-		-		-	-	-
Oil seeds		-	-		-		-	-	-
Nueg		-	-		-		-	-	-
Linseed		-	-		-		-	-	-
Ground nuts		-	-		-		-	-	-
Safflower		-	-		-		-	-	-
Sesame		-	-		-		-	-	-
Rapeseed		-	-		-		-	-	-

Table 1.9 (Cont'd)

## Harari Region

Crop type	Improved seed			Pesticide		Irrigation		Extension package	
	Holder	Hectare	Quintal	Holder	Hectare	Holder	Hectare	Holder	Hectare
All							766		
Cereals							766		
Teff							-		
Barley							-		
Wheat							-		
Maize							665		
Sorghum							-		
Finger millet							-		
Oats/ 'Aja'							-		
Rice							-		
Pulse							-		
Horse/Faba beans							-		
Field peas							-		
Haricot beans							-		
Chick peas							-		
Lentiles							-		
Vetch/Grass peas							-		
Soya beans							-		
Fenugreek							-		
Gibto							-		
Oil seeds							-		
Nueg							-		
Linseed							-		
Ground nuts							-		
Safflower							-		
Sesame							-		
Rapeseed							-		

Table 1.10: Number of Holders, Inputs Applied Area and Quantity of Inputs used

Dire Dawa Region

Crop type	All crop land Area	All Fertilizer			Natural		DAP		
		Hectare	Quintal	*	Holder	Hectare	Holder	Hectare	Quintal
All	842	568	*	6,264	562	*	*	*	
Cereals	839	566	*	6,264	560	*	*	*	
Teff	-	-	-	-	-	-	-	-	
Barley	-	-	-	-	-	-	-	-	
Wheat	-	-	-	-	-	-	-	-	
Maize	648	453	*	5,814	447	*	*	*	
Sorghum	191	113	-	1,766	113	-	-	-	
Finger millet	-	-	-	-	-	-	-	-	
Oats/ 'Aja'	-	-	-	-	-	-	-	-	
Rice	-	-	-	-	-	-	-	-	
Pulse	3	2	-	342	2	-	-	-	
Horse/Faba beans	-	-	-	-	-	-	-	-	
Field peas	-	-	-	-	-	-	-	-	
Haricot beans	3	2	-	342	2	-	-	-	
Chick peas	-	-	-	-	-	-	-	-	
Lentiles	-	-	-	-	-	-	-	-	
Vetch/Grass peas	-	-	-	-	-	-	-	-	
Soya beans	-	-	-	-	-	-	-	-	
Fenugreek	-	-	-	-	-	-	-	-	
Gibto	-	-	-	-	-	-	-	-	
Oil seeds	*	*	-	*	*	-	-	-	
Nueg	-	-	-	-	-	-	-	-	
Linseed	-	-	-	-	-	-	-	-	
Ground nuts	-	-	-	-	-	-	-	-	
Safflower	-	-	-	-	-	-	-	-	
Sesame	*	*	-	*	*	-	-	-	
Rapeseed	-	-	-	-	-	-	-	-	

Table 1.10 (Cont'd)

Dire Dawa Region

Crop type	Holder	UREA		UREA + DAP			Indigenous seed		
		Hectare	Quintal	Holder	Hectare	Quintal	Holder	Hectare	Quintal
All	*	*	*	-	-	-	9,582	820	207
Cereals	*	*	*	-	-	-	9,582	816	207
Teff	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-
Maize	*	*	*	-	-	-	8,793	641	166
Sorghum	-	-	-	-	-	-	2,564	175	41
Finger millet	-	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-	-
Pulse	-	-	-	-	-	-	461	3	-
Horse/Faba beans	-	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-	-
Haricot beans	-	-	-	-	-	-	461	3	-
Chick peas	-	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oil seeds	-	-	-	-	-	-	*	*	-
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	*	*	-
Rapeseed	-	-	-	-	-	-	-	-	-

Table 1.10 (Cont'd)

Dire Dawa Region

Crop type	Improved seed			Pesticide		Irrigation		Extension package	
	Holder	Hectare	Quintal	Holder	Hectare	Holder	Hectare	Holder	Hectare
All	-	-	-	-	-	4,959	554	-	-
Cereals	-	-	-	-	-	4,959	552	-	-
Teff	-	-	-	-	-	-	-	-	-
Barley	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-
Maize	-	-	-	-	-	4,305	420	-	-
Sorghum	-	-	-	-	-	1617	133	-	-
Finger millet	-	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-	-
Pulse	-	-	-	-	-	158	-	-	-
Horse/Faba beans	-	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-	-
Haricot beans	-	-	-	-	-	158	-	-	-
Chick peas	-	-	-	-	-	-	-	-	-
Lentiles	-	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-
Oil seeds	-	-	-	-	-	-	-	-	-
Nueg	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-

**Table 2: Holders Applying Inputs by Age group**

**Country Level**

Age group	All Crop Holders	Chemical Fertilizer	Improved - Seed	Pesticide	Irrigation
Below 18	17,237	1,098	*	1,242	*
18 - 20	84,301	9,599	2,904	3,361	4,518
21 - 24	201,563	23,290	3,951	17,991	13,122
25 - 29	559,219	70,733	18,233	37,376	31,786
30 - 39	1,228,430	176,887	40,082	74,453	68,547
40 - 49	885,059	129,313	28,641	59,967	61,297
50 - 59	583,971	83,570	19,861	31,578	33,508
60 and above	611,537	71,692	10,643	29,713	40,187
Not stated	2,133	-	-	-	*
Total	4,173,450	566,182	124,737	255,682	253,195

**Table 2.1: Holders Applying Inputs by Age group**

**Tigray Region**

Age group	All Crop Holders	Chemical Fertilizer	Improved - Seed	Pesticide	Irrigation
Below 18	-	-	-	-	-
18 - 20	-	-	-	-	-
21 - 24	*	-	-	-	*
25 - 29	4,054	*	-	-	2,489
30 - 39	11,357	1,384	-	*	7,562
40 - 49	10,656	-	*	-	*
50 - 59	5,219	*	-	-	*
60 and above	9,995	*	-	-	7,734
Not stated	-	-	-	-	-
Total	41,667	4,293	*	*	30,578

**Table 2.2: 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	435	-	*	-	345
25 - 29	2,143	-	*	-	1,962
30 - 39	5,294	-	*	*	5,038
40 - 49	3,944	-	*	-	3,763
50 - 59	1,638	-	*	*	1,593
60 and above	1,948	-	-	-	1,676
Not stated	*	-	-	-	*
Total	15,855	-	*	*	14,693

**Table 2.3: Holders Applying Inputs by Age group**

**Amhara Region**

Age group	All Crop Holders	Chemical Fertilizer	Improved - Seed	Pesticide	Irrigation
Below 18	1,791	-	-	-	-
18 - 20	4,793	-	-	-	*
21 - 24	14,723	*	*	*	3,606
25 - 29	41,100	1,833	-	3,395	4,910
30 - 39	121,672	7,460	1,304	5,186	15,321
40 - 49	102,678	*	*	2,589	15,090
50 - 59	89,570	6,147	*	4,084	10,826
60 and above	90,740	*	*	*	11,569
Not stated	*	-	-	-	-
<b>Total</b>	<b>467,516</b>	<b>26,544</b>	<b>3,865</b>	<b>19,175</b>	<b>61,666</b>

**Table 2.4: Holders Applying Inputs by Age group**

**Oromia Region**

Age group	All Crop Holders	Chemical Fertilizer	Improved - Seed	Pesticide	Irrigation
Below 18	5,373	-	-	*	-
18 - 20	43,128	5,094	*	2,635	3,826
21 - 24	110,387	11,898	*	15,634	7,681
25 - 29	272,806	21,475	2,936	31,853	19,217
30 - 39	546,784	55,622	4,204	60,124	33,902
40 - 49	378,411	36,092	2,631	50,834	27,980
50 - 59	234,107	24,301	3,618	24,136	15,503
60 and above	260,592	19,364	2,452	24,379	16,454
Not stated	*	-	-	-	-
<b>Total</b>	<b>1,854,404</b>	<b>173,846</b>	<b>16,909</b>	<b>210,496</b>	<b>124,561</b>

**Table 2.5: Holders Applying Inputs by Age group**

**Somale Region**

Age group	All Crop Holders	Chemical Fertilizer	Improved - Seed	Pesticide	Irrigation
Below 18	*	-	-	-	-
18 - 20	*	-	-	-	-
21 - 24	461	-	-	-	*
25 - 29	1,404	-	-	-	-
30 - 39	3,314	-	*	-	*
40 - 49	4,873	*	-	*	*
50 - 59	3,475	-	-	-	*
60 and above	3,703	-	*	-	*
Not stated	-	-	-	-	-
<b>Total</b>	<b>17,509</b>		<b>*</b>	<b>*</b>	<b>*</b>

**Table 2.6: Holders Applying Inputs by Age group**

**Benshangul-Gumuz Region**

Age group	All Crop Holders	Chemical Fertilizer	Improved - Seed	Pesticide	Irrigation
Below 18	*	-	-	-	-
18 - 20	205	-	-	-	*
21 - 24	531	-	-	-	*
25 - 29	1,930	-	-	-	191
30 - 39	3,610	*	-	-	913
40 - 49	3,789	*	*	*	749
50 - 59	2,306	-	-	-	*
60 and above	3,720	-	-	-	287
Not stated	-	-	-	-	-
Total	16,150	*	*	*	2,687

**Table 2.7: 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	9,599	1,098	*	*	-
18 - 20	34,980	4,430	2,028	*	*
21 - 24	72,002	9,894	3,558	*	*
25 - 29	228,817	46,824	15,205	1,955	*
30 - 39	520,234	111,547	33,614	7,952	*
40 - 49	371,262	86,646	23,885	5,129	3,500
50 - 59	242,525	52,557	14,863	2,951	*
60 and above	235,218	45,957	7,865	2,550	*
Not stated	784	-	-	-	-
Total	1,715,421	358,954	101,439	22,105	*

**Table 2.8: Holders Applying Inputs by Age group**

**Gambella Region**

Age group	All Crop Holders	Fertilizer	Improved - Seed	Pesticide	Irrigation
Below 18	91	-	-	*	-
18 - 20	612	-	-	*	-
21 - 24	1,839	-	*	86	-
25 - 29	4,651	-	*	*	*
30 - 39	8,937	-	*	740	-
40 - 49	5,372	-	*	1,088	-
50 - 59	2,962	*	*	399	-
60 and above	3,605	-	*	*	-
Not stated	-	-	-	-	-
Total	28,069	*	227	3,046	*

**Table 2.9: 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	428	*	-	-	*
25 - 29	1,072	246	-	*	*
30 - 39	2,301	748	*	-	176
40 - 49	1,581	480	-	-	117
50 - 59	977	208	*	-	*
60 and above	466	186	-	*	*
Not stated	-	-	-	-	-
Total	6,960	2,043	*	*	766

**Table 2.10: 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	368	-	-	-	136
25 - 29	1,242	*	-	-	630
30 - 39	2,926	-	-	-	1,647
40 - 49	2,493	-	*	-	1,279
50 - 59	1,192	-	*	-	566
60 and above	1,550	*	-	-	645
Not stated	-	-	-	-	-
Total	9,898	*	*	-	4,959

**Table 3. Holders Applying Inputs by Educational Status**

**Country Level**

Educational Status of Holders	All Crop Holders	Chemical Fertilizer	Improved - Seed	Pesticide	Irrigation
Illiterate	2,652,207	287,940	55,308	135,540	162,120
Literate	214,639	19,647	4,528	17,716	20,840
Grades 1 - 3	486,209	75,759	18,061	36,334	27,222
Grades 4 - 6	534,551	105,874	27,124	38,017	25,239
Grades 7 - 8	198,774	51,120	13,325	16,885	13,478
Grades 9 - 11	53,848	14,076	3,858	8,753	3,572
Grade 12 complete	27,721	10,344	1,931	1,991	*
Above grade 12	5,501	1,423	*	*	-
Total	4,173,450	566,182	124,737	255,682	253,195

**Table 3.1: Holders Applying Inputs by Educational Status**

**Tigray Region**

Educational Status of Holders	All Crop Holders	Chemical Fertilizer	Improved - Seed	Pesticide	Irrigation
Illiterate	29,879	*	*	*	20,649
Literate	4,409	*	-	-	4,409
Grades 1 - 3	3,741	*	-	-	2,502
Grades 4 - 6	*	-	-	-	*
Grades 7 - 8	*	*	-	-	*
Grades 9 - 11	*	-	-	-	*
Grade 12 complete	-	-	-	-	-
Above grade 12	-	-	-	-	-
Total	41,667	4,293	*	*	30,578

**Table 3.2: Holders Applying Inputs by Educational Status**

**Afar Region**

Educational Status of Holders	All Crop Holders	Chemical Fertilizer	Improved - Seed	Pesticide	Irrigation
Illiterate	14,110	-	*	*	13,265
Literate	*	-	-	-	*
Grades 1 - 3	551	-	-	-	415
Grades 4 - 6	*	-	-	-	*
Grades 7 - 8	253	-	-	-	208
Grades 9 - 11	*	-	-	-	*
Grade 12 complete	-	-	-	-	-
Above grade 12	-	-	-	-	-
Total	15,855	-	*	*	14,693

**Table 3.3: Holders Applying Inputs by Educational Status**

**Amhara Region**

<i>Educational Status of Holders</i>	<i>All Crop Holders</i>	<i>Chemical Fertilizer</i>	<i>Improved - Seed</i>	<i>Pesticide</i>	<i>Irrigation</i>
<i>Illiterate</i>	318,953	18,665	2,151	12,276	42,744
<i>Literate</i>	71,904	*	*	3,455	10,192
<i>Grades 1 - 3</i>	26,476	*	*	*	*
<i>Grades 4 - 6</i>	35,759	1,527	*	*	4,513
<i>Grades 7 - 8</i>	9,731	-	-	*	*
<i>Grades 9 - 11</i>	3,564	-	-	-	-
<i>Grade 12 complete</i>	*	-	-	-	-
<i>Above grade 12</i>	*	-	-	-	-
<i>Total</i>	467,516	26,544	3,865	19,175	61,666

**Table 3.4: Holders Applying Inputs by Educational Status**

**Oromia Region**

<i>Educational Status of Holders</i>	<i>All Crop Holders</i>	<i>Chemical Fertilizer</i>	<i>Improved &amp; Pesticide</i>	<i>Irrigation</i>
<i>Illiterate</i>	1,167,563	86,553	6,004	69,178
<i>Literate</i>	102,651	8,145	2,316	5,283
<i>Grades 1 - 3</i>	246,853	25,207	2,112	20,864
<i>Grades 4 - 6</i>	226,951	35,180	2,916	17,066
<i>Grades 7 - 8</i>	80,083	14,115	2,592	9,170
<i>Grades 9 - 11</i>	21,209	3,465	*	2,532
<i>Grade 12 complete</i>	7,438	*	*	*
<i>Above grade 12</i>	1,656	-	-	*
<i>Total</i>	1,854,404	173,846	16,909	124,561

**Table 3.5: Holders Applying Inputs by Educational Status**

**Somale Region**

<i>Educational Status of Holders</i>	<i>All Crop Holders</i>	<i>Chemical Fertilizer</i>	<i>Improved - Seed</i>	<i>Pesticide</i>	<i>Irrigation</i>
<i>Illiterate</i>	12,019	-	-	-	*
<i>Literate</i>	2,875	-	*	-	*
<i>Grades 1 - 3</i>	1,145	-	-	-	*
<i>Grades 4 - 6</i>	1,031	*	*	*	*
<i>Grades 7 - 8</i>	*	-	-	*	-
<i>Grades 9 - 11</i>	*	-	-	-	-
<i>Grade 12 complete</i>	-	-	-	-	-
<i>Above grade 12</i>	-	-	-	-	-
<i>Total</i>	17,509	*	*	*	*

**Table 3.6: Holders Applying Inputs by Educational Status**

**Benshangul-Gumuz Region**

Educational Status of Holders	All Crop Holders	Chemical Fertilizer	Improved - Seed	Pesticide	Irrigation
Illiterate	11,437	-	*	*	1,965
Literate	1,355	*	-	-	225
Grades 1 - 3	1,358	-	-	-	*
Grades 4 - 6	1,549	*	-	*	229
Grades 7 - 8	319	-	-	-	*
Grades 9 - 11	*	-	-	-	*
Grade 12 complete	-	-	-	-	-
Above grade 12	-	-	-	-	-
<b>Total</b>	<b>16,150</b>	<b>*</b>	<b>*</b>	<b>*</b>	<b>2,687</b>

**Table 3.7: 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	1,070,015	179,581	44,958	12,974	*
Literate	28,590	5,262	1,202	*	-
Grades 1 - 3	201,625	47,791	15,318	3,301	*
Grades 4 - 6	261,065	68,571	23,823	3,487	*
Grades 7 - 8	104,087	36,552	10,733	1,515	*
Grades 9 - 11	27,254	10,610	3,128	*	*
Grade 12 complete	19,334	9,162	1,675	*	*
Above grade 12	3,451	1,423	*	-	-
<b>Total</b>	<b>1,715,421</b>	<b>358,954</b>	<b>101,439</b>	<b>22,105</b>	<b>*</b>

**Table 3.8: Holders Applying Inputs by Educational Status**

**Gambella Region**

Educational Status of Holders	All Crop Holders	Chemical Fertilizer	Improved - Seed	Pesticide	Irrigation
Illiterate	16,033	*	156	1,687	*
Literate	1,673	-	*	*	-
Grades 1 - 3	2,879	-	*	178	-
Grades 4 - 6	4,411	-	-	490	-
Grades 7 - 8	2,027	-	-	334	-
Grades 9 - 11	833	-	*	203	-
Grade 12 complete	115	-	-	*	-
Above grade 12	*	-	-	*	-
<b>Total</b>	<b>28,069</b>	<b>*</b>	<b>227</b>	<b>3,046</b>	<b>*</b>

**Table 3.9: Holders Applying Inputs by Educational Status**

**Harari Region**

<i>Educational Status of Holders</i>	<i>All Crop Holders</i>	<i>Chemical Fertilizer</i>	<i>Improved - Seed</i>	<i>Pesticide</i>	<i>Irrigation</i>
<i>Illiterate</i>	4,294	1,150	*	*	*
<i>Literate</i>	430	*	*	-	*
<i>Grades 1 - 3</i>	939	*	-	-	*
<i>Grades 4 - 6</i>	991	381	-	-	*
<i>Grades 7 - 8</i>	209	*	-	-	-
<i>Grades 9 - 11</i>	*	-	-	-	*
<i>Grade 12 complete</i>	-	-	-	-	-
<i>Above grade 12</i>	-	-	-	-	-
<i>Total</i>	6,960	2,043	*	*	766

**Table 3.10: Holders Applying Inputs by Educational Status**

**Dire Dawa Region**

<i>Educational Status of Holders</i>	<i>All Crop Holders</i>	<i>Chemical Fertilizer</i>	<i>Improved - Seed</i>	<i>Pesticide</i>	<i>Irrigation</i>
<i>Illiterate</i>	7,904	*	*	-	4,152
<i>Literate</i>	283	-	*	-	172
<i>Grades 1 - 3</i>	642	*	-	-	149
<i>Grades 4 - 6</i>	892	*	-	-	416
<i>Grades 7 - 8</i>	*	-	-	-	*
<i>Grades 9 - 11</i>	*	-	-	-	*
<i>Grade 12 complete</i>	-	-	-	-	-
<i>Above grade 12</i>	-	-	-	-	-
<i>Total</i>	9,898	*	*	-	4,959

**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	All crops	Crop category		
			Cereals	Pulses	Oilseeds
All damage	1,413,659	142,216	95,364	30,010	1,567
Crop disease	2,102	112	*	*	*
Frost or floods	542,744	53,896	36,075	10,197	513
Locust	36,262	1,718	831	599	-
Shortage of rain	6,936	240	106	127	-
Too much rain	91,943	5,202	2,703	1,777	*
Wild animals	11,229	541	*	122	-
Birds	99,136	6,092	4,009	1,056	*
Hailstone	293,706	26,165	19,192	4,714	*
Pests	82,263	8,564	6,496	903	*
Weeds	212,545	26,824	18,303	6,996	*
Others	217,147	12,862	7,305	3,515	202

**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	All crops	Crop category		
			Cereals	Pulses	Oilseeds
All damage	18,432	*	*	*	-
Crop disease	-	-	-	-	-
Frost or floods	-	-	-	-	-
Locust	-	-	-	-	-
Shortage of rain	-	-	-	-	-
Too much rain	-	-	-	-	-
Wild animals	-	-	-	-	-
Birds	-	-	-	-	-
Hailstone	*	*	*	*	-
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	All crops	Crop category		
			Cereals	Pulses	Oilseeds
All damage	4,829	1,345	1,205	*	-
Crop disease	*	*	-	-	-
Frost or floods	*	*	*	*	-
Locust	-	-	-	-	-
Shortage of rain	*	*	-	-	-
Too much rain	*	*	*	-	-
Wild animals	*	*	*	-	-
Birds	*	*	*	*	-
Hailstone	-	-	-	-	-
Pests	*	*	*	-	-
Weeds	1,022	*	*	*	-
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	All crops	Crop category		
			Cereals	Pulses	Oilseeds
All damage	237,143	26,436	15,470	9,262	118
Crop disease	*	*	*	-	-
Frost or floods	72,034	4,427	2,345	1,856	*
Locust	*	*	*	*	-
Shortage of rain	*	*	*	*	-
Too much rain	27,157	2,071	*	865	*
Wild animals	2,492	44	*	*	-
Birds	4,008	207	*	*	-
Hailstone	95,509	9,609	7,997	835	-
Pests	3,708	*	*	*	-
Weeds	52,088	7,510	2,418	4,773	*
Others	29,534	1,750	909	*	*

**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	All crops	Crop category		
			Cereals	Pulses	Oilseeds
All damage	604,786	71,544	51,417	12,504	240
Crop disease	*	*	*	-	-
Frost or floods	193,115	33,528	23,874	5337	*
Locust	8,898	468	402	*	-
Shortage of rain	*	*	*	*	-
Too much rain	43,478	2,040	1338	512	*
Wild animals	*	*	*	*	-
Birds	43,537	3,002	2,264	463	*
Hailstone	140,856	9,516	5,641	2,837	*
Pests	22,392	2356	1846	375	-
Weeds	111,963	15,343	13,165	1490	*
Others	88,000	4,930	2,686	1365	*

**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	All crops	Crop category		
			Cereals	Pulses	Oilseeds
All damage	9,397	923	628	*	-
Crop disease	-	-	-	-	-
Frost or floods	1577	*	*	*	-
Locust	*	*	-	*	-
Shortage of rain	-	-	-	-	-
Too much rain	*	*	*	-	-
Wild animals	-	-	-	-	-
Birds	*	118	101	*	-
Hailstone	*	*	*	*	-
Pests	1688	227	*	*	-
Weeds	*	*	*	*	-
Others	*	*	*	*	-

**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	All crops	Crop category		
			Cereals	Pulses	Oilseeds
All damage	3,585	56	34	*	-
Crop disease	*	*	*	-	-
Frost or floods	*	*	*	-	-
Locust	-	-	-	-	-
Shortage of rain	-	-	-	-	-
Too much rain	*	*	*	*	-
Wild animals	-	-	-	-	-
Birds	*	*	*	*	-
Hailstone	*	*	-	*	-
Pests	-	-	-	-	-
Weeds	2375	34	24	*	-
Others	440	*	*	*	-

**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	All crops	Crop category		
			Cereals	Pulses	Oilseeds
All damage	518,273	35,851	21,554	7,373	1177
Crop disease	*	*	*	*	*
Frost or floods	274,878	15,796	9,776	2949	417
Locust	20,805	683	*	265	-
Shortage of rain	5583	122	52	68	-
Too much rain	19,753	*	*	398	*
Wild animals	3,540	156	*	*	-
Birds	47,427	2,537	1,313	515	*
Hailstone	30,239	1,732	857	617	*
Pests	53,023	5627	4178	429	*
Weeds	38,599	2986	2028	688	*
Others	93,672	5,200	2,897	1354	*

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

**Gambella Region**

Cause of damage	All holders	All crops	Crop category		
			Cereals	Pulses	Oilseeds
All damage	13,575	1101	562	183	*
Crop disease	*	*	-	-	*
Frost or floods	518	20	*	-	10
Locust	-	-	-	-	-
Shortage of rain	*	*	-	-	-
Too much rain	*	*	*	-	*
Wild animals	158	4	*	-	3
Birds	904	89	36	-	*
Hailstone	6093	457	*	-	*
Pests	-	-	-	-	-
Weeds	4632	439	191	-	14
Others	1347	80	*	-	20

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

**Harari Region**

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

**Table 4.10: Number of Holders and Damaged Crop Area in Hectare by Category of Crops and Cause of Damage**

**Dire Dawa Region**

Cause of damage	All holders	All crops	Crop category		
			Cereals	Pulses	Oilseeds
All damage	3,423	200	169	*	-
Crop disease	-	-	-	-	-
Frost or floods	*	*	*	-	-
Locust	*	*	*	-	-
Shortage of rain	-	-	-	-	-
Too much rain	*	*	-	-	-
Wild animals	*	*	*	-	-
Birds	*	*	*	-	-
Hailstone	711	29	*	*	-
Pests	1443	75	*	-	-
Weeds	871	*	*	*	-
Others	*	*	*	-	-

**Appendix I**  
**Estimation Procedures of Totals, Ratios and**  
**Sampling Error**

## 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  $h^{\text{th}}$  stratum.

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

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

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

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

$a_{hij}$  is the value of area for agricultural households  $j$ , in the  $i^{\text{th}}$  EA in the  $h^{\text{th}}$  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  $i^{\text{th}}$  EA in the  $h^{\text{th}}$  stratum.

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

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

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

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

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

$$Var(\hat{R}_h) = \frac{1}{\hat{X}_h^2} [Var(\hat{Z}_h) + \hat{R}_h^2 Var(\hat{X}_h) - 2\hat{R}_h Cov(\hat{Z}_h, \hat{X}_h)]$$

Where,

$$Cov(\hat{Z}_h, \hat{X}_h) = (1 - f_h) \frac{n_h}{n_h - 1} \sum_{i=1}^{n_h} \left( \hat{Z}_{hi} - \frac{\hat{Z}_h}{n_h} \right) \left( \hat{X}_{hi} - \frac{\hat{X}_h}{n_h} \right) + f_h \sum_{i=1}^{n_h} (1 - f_{hi}) \left( \frac{h_{hi}}{h_{hi} - 1} \right) \sum_{j=1}^{h_{hi}} \left( \hat{Z}_{hij} - \frac{\hat{Z}_{hi}}{h_{hi}} \right) \left( \hat{X}_{hij} - \frac{\hat{X}_{hi}}{h_{hi}} \right)$$

$f_h$  = average first stage probability of selection of EAs within stratum  $h$ .

$f_{hi} = \frac{h_{hi}}{H_{hi}}$  = average second stage probability of selection within the  $i^{th}$  sample EA in stratum  $h$ .

$\hat{A}_{hi}, \hat{Y}_{hi}, \hat{Q}_{hi}, \hat{Z}_{hi}, \hat{X}_{hi}$  are weighted total area, holder, quantity of fertilizer, characteristics  $z$  and  $x$ , respectively, in the  $i^{th}$  EA and  $h^{th}$  stratum.

$\hat{A}_{hij}, \hat{Y}_{hij}, \hat{Q}_{hij}, \hat{Z}_{hij}, \hat{X}_{hij}$  are weighted value of area, holder, quantity of fertilizer, characteristics  $z$  and  $x$ , respectively, from  $j^{th}$  agricultural household in the  $i^{th}$  EA and  $h^{th}$  stratum.

Since all strata are independent, the total variance at regional and country level is computed by aggregating the result obtained at Zone/Special Wereda level, i.e.

$$Var(\hat{A}) = \sum_h^L Var(\hat{A}_h), Var(\hat{Y}) = \sum_h^L Var(\hat{Y}_h), Var(\hat{Q}) = \sum_h^L Var(\hat{Q}_h), Var(\hat{R}) = \sum_h^L Var(\hat{R}_h)$$

Where,  $L$  is the number of strata (Zone/Special Wereda).

In estimating the sampling variance by the above formula, selection of EAs within a stratum is assumed to be with replacement. By so doing the variance estimate may be slightly over estimated but it greatly simplifies the estimation procedure.

## 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:

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

**7. Ninety-five Percent Confidence Interval (CI) of Stratum Total of Area:**

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

Where  $SE(\hat{A}_h) = \sqrt{\text{Var}(\hat{A}_h)}$  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**

## Annex II

Table 1 Estimate of Number of Holders, Inputs applied Area and Quality of inputs used and their Standard Errors &amp; Coefficients of Variations of Major Crops (For Ethiopia), 2009/10 (2001 E.C) Agricultural Sample Survey, Belg Season

## Country Level

Crop	All crop land area			All fertilizer						Natural					
	Area (Ha)			Area (Ha)			Quantity (Qt)			Holder			Area (Ha)		
	Estimate	SE	CV	Estimate	SE	CV	Estimate	SE	CV	Estimate	SE	CV	Estimate	SE	CV
<b>All</b>	1,244,409	46,085	3.7	366,909	25,032	6.82	126,216	24,700	19.57	1,871,092	67,104	3.59	226,975	15,941	7.02
<b>Cereals</b>	1,013,668	40,549	4	294,950	22,996	7.8	94,903	16,742	17.64	1,667,873	65,413	3.92	176,740	14,277	8.08
Teff	103,813	15,033	14.48	15,671	3,240	20.67	3,504	1276	36.4	49,639	11,834	23.84	8,674	2,146	24.74
Barley	172,228	17,636	10.24	77,899	12,659	16.25	32,253	7,430	23.04	219,073	27,001	12.32	28,711	5,231	18.22
Wheat	66,061	9,236	13.98	28,451	6,368	22.38	14,926	4,565	30.58	78,053	15,819	20.27	9,147	2,269	24.81
Maize	577,990	27,941	4.83	152,942	10,445	6.83	40,420	10,938	27.06	1,434,633	60,383	4.21	115,805	8,750	7.56
Sorghum	76,999	15,929	20.69	13,482	6,623	49.12	522	188	36.08	54,745	12,504	22.84	13,211	6,622	50.13
Finger millet	1,164	301	25.86	284	129	45.47	115	115	99.68	4,597	2,044	44.47	253	125	49.61
Oats/ 'Aja'	13,884	3,837	27.64	6,221	2,326	37.38	3,164	1370	43.28	16,233	5,614	34.59	939	332	35.38
Rice	1,530	963	62.93	-	-	-	-	-	-	-	-	-	-	-	-
<b>Putse</b>	221,461	16,465	7.43	71,682	7,007	9.77	31,268	10,421	33.33	754,394	42,282	5.6	49,989	5,916	11.83
Horse/Faba bean	1,499	411	27.4	285	90	31.64	62	32	52.2	10,637	2,549	23.97	217	75	34.84
Field peas	32,398	6,272	19.36	8,124	3,366	41.44	94	82	87.71	42,420	14,245	33.58	7,972	3,321	41.66
Haricot beans	165,987	14,773	8.9	60,620	6,056	9.99	31,038	10,420	33.57	692,385	39,762	5.74	39,282	4,787	12.19
Chick peas	12,259	3,040	24.8	2,098	1,044	49.75	22	16	74.28	8,550	3,695	43.22	2,039	1,016	49.81
Lentiles	5,786	2,428	41.96	430	167	38.84	14	11	77.38	5,099	1,392	27.3	379	128	33.77
Vetch/Grass peas	1,654	754	45.59	69	37	52.64	5	5	99.99	1,770	880	49.72	62	36	57.64
Soya beans	82	47	57.06	8	7	86.72	14	14	99.99	414	301	72.84	1	1	97.86
Fenugreek	1,796	1,504	83.78	48	32	67.3	19	16	60.59	1,738	832	47.86	38	31	83.68
Gibto	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Oil seeds</b>	9,280	3,213	34.62	277	94	34.07	45	33	72.93	9,938	2,659	26.76	246	90	36.63
Nueg	95	63	66.43	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	408	122	29.85	14	8	54.51	-	-	-	1,422	677	47.59	14	8	54.51
Ground nuts	2,822	1,702	60.31	181	60	33.05	45	33	72.93	6,882	2,445	35.52	150	53	35.23
Safflower	468	203	43.32	7	4	58.62	-	-	-	519	320	61.56	7	4	58.62
Sesame	5,451	2,716	49.82	72	60	83.27	-	-	-	813	454	55.84	72	60	83.27
Rapeseed	36	19	52.12	2	1	71.75	-	-	-	513	341	66.54	2	1	71.75

Cont'd

Crop	DAP									UREA								
	Holder			Area (Ha)			Quantity (Qt)			Holder			Area (Ha)			Quantity (Qt)		
	Estimate	SE	CV	Estimate	SE	CV	Estimate	SE	CV	Estimate	SE	CV	Estimate	SE	CV	Estimate	SE	CV
All	20,876	10,734	51.42	2,923	1,462	50.03	2,341	1,163	49.67	24,696	4,814	18.68	3,067	610	19.9	2,640	609	23.07
Cereals	20,876	10,734	51.42	2,923	1,462	50.03	2,341	1,163	49.67	20,791	4,207	20.24	2,656	580	21.85	2,204	561	25.47
Teff	-	-	-	-	-	-	-	-	-	1,780	742	41.71	448	281	62.76	202	118	58.45
Barley	11,235	8,322	74.07	2,138	1,372	64.14	1,570	1,007	64.18	3,161	1875	59.3	380	219	56.09	578	374	64.08
Wheat	-	-	-	-	-	-	-	-	-	301	300	99.79	39	39	99.79	38	38	99.79
Maize	10,479	6,510	62.12	785	409	52.09	772	528	68.44	15,807	3,723	23.55	1,749	442	25.28	1,351	386	28.55
Sorghum	-	-	-	-	-	-	-	-	-	356	157	43.99	31	14	48.47	38	20	62.8
Finger millet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulse	-	-	-	-	-	-	-	-	-	6,927	2,487	35.9	411	192	46.6	435	150	34.53
Horse/Faba beans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haricot beans	-	-	-	-	-	-	-	-	-	6,511	2,452	37.65	387	190	49.07	421	150	35.55
Chick peas	-	-	-	-	-	-	-	-	-	415	417	100.42	24	24	100.42	15	15	100.42
Lentiles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vetch/Grass peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gibbo	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oil seeds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nueg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Cont'd

Crop	UREA + DAP									Indigenous seed								
	Holder			Area (Ha)			Quantity			Holder			Area (Ha)			Quantity (Qt)		
	Estimate	SE	CV	Estimate	SE	CV	Estimate	SE	CV	Estimate	SE	CV	Estimate	SE	CV	Estimate	SE	CV
All	70,374	8,717	12.39	9,815	1,514	15.42	13,332	2,529	18.97	4,007,973	78,032	1.95	1,166,387	44,332	3.8	799,278	52,072	6.51
Cereals	59,082	7,868	13.32	8,148	1,373	16.85	9,174	1,712	18.67	3,571,102	81,931	2.29	951,074	38,846	4.08	691,453	47,647	6.89
Teff	1,995	930	46.64	131	54	41.23	135	71	52.66	328,579	32,644	9.93	101,912	14,557	14.28	39,439	5,797	14.7
Barley	2,840	1,131	39.83	277	125	45.3	324	153	47.2	718,555	46,400	6.46	168,725	17,270	10.24	289,429	32,693	11.3
Wheat	141	141	99.93	2	2	99.93	3	3	99.93	288,437	30,701	10.64	64,581	9,066	14.04	130,648	20,121	15.4
Malze	55,306	7,602	13.75	7,701	1,348	17.51	8,568	1,687	19.69	2,842,086	82,441	2.9	525,484	26,439	5.03	192,969	10,897	5.65
Sorghum	856	403	47.1	37	18	48.55	145	88	47.27	185,088	20,795	11.24	73,929	15,573	21.06	13,074	2,288	17.5
Finger millet	-	-	-	-	-	-	-	-	-	13,925	3,222	23.14	1,148	301	26.19	802	277	45.93
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-	73,643	14,185	19.28	13,766	3,811	27.69	23,758	7,139	30.05
Rice	-	-	-	-	-	-	-	-	-	4,876	2,832	58.07	1,527	963	63.07	1,534	913	59.56
Pulse	36,408	6,381	17.53	1,667	329	19.73	4,158	1,011	24.32	1,789,004	61,438	3.43	208,243	15,986	7.75	106,471	14,974	14.06
Horse/Faba beans	-	-	-	-	-	-	-	-	-	37,349	6,917	18.52	1,355	365	26.91	877	257	29.28
Field peas	35	33	95.36	-	-	-	2	2	95.36	150,964	24,988	15.62	32,216	6,238	19.36	32,852	6,167	18.77
Haricot beans	36,024	6,371	17.69	1,636	327	20	4,135	1,011	24.44	1,547,869	55,947	3.61	151,231	14,252	9.42	45,120	4,473	9.91
Chick peas	349	349	99.98	20	20	99.98	6	6	99.98	65,726	13,446	20.46	12,185	3,036	24.92	19,064	12,174	63.86
Lentils	-	-	-	-	-	-	-	-	-	42,051	11,683	27.74	5,748	2,407	41.88	6,859	3,705	55.64
Vetch/Grass peas	-	-	-	-	-	-	-	-	-	12,816	4,569	35.66	1,646	754	45.81	1,271	538	42.37
Soya beans	543	543	99.99	7	7	99.99	14	14	99.99	2,421	1306	53.96	74	46	62.28	7	7	97.08
Fenugreek	138	138	99.92	3	3	99.92	2	2	99.92	12,675	5,536	43.68	1,787	1,504	84.2	621	455	73.3
Gibto	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oil seeds	-	-	-	-	-	-	-	-	-	53,811	9,724	18.07	9,070	3,205	35.33	1,355	456	33.68
Nueg	-	-	-	-	-	-	-	-	-	1,513	889	58.74	92	63	68.66	19	13	67.73
Linseed	-	-	-	-	-	-	-	-	-	8,368	1,981	23.68	348	114	32.78	115	38	32.83
Ground nuts	-	-	-	-	-	-	-	-	-	18,287	5,112	27.95	2,771	1,702	61.43	661	322	48.76
Safflower	-	-	-	-	-	-	-	-	-	8,589	2586	30.23	468	203	43.33	4	2	60.56
Sesame	-	-	-	-	-	-	-	-	-	18,889	7,489	39.65	5,365	2,708	50.48	656	325	58.37
Rapeseed	-	-	-	-	-	-	-	-	-	1,667	671	40.22	26	16	61.43	-	-	-

Cont'd

Crop	Improved seed									Pesticide								
	Holder			Area (Ha)			Quintal			Holder			Area (Ha)					
	Estimate	SE	CV	Estimate	SE	CV	Estimate	SE	CV	Estimate	SE	CV	Estimate	SE	CV			
All	124,737	14,641	11.74	24,253	4,336	17.88	7,679	1,430	18.62	255,882	28,525	11.16	134,537	19,594	14.56			
Cereals	119,734	14,436	12.06	24,032	4,334	18.03	7,213	1,312	18.18	240,774	27,819	11.55	126,841	19,324	15.23			
Tarf	656	469	71.47	211	154	72.87	92	79	85.13	75,124	14,440	19.22	35,530	8,924	25.12			
Barley	6,117	1,696	27.73	899	334	37.16	779	647	83.17	113,055	19,846	17.55	41,808	9,476	22.78			
Wheat	1,414	709	50.11	296	204	68.66	483	481	99.59	84,936	18,672	21.98	27,603	6,807	24.66			
Malze	111,829	14,310	12.8	22,621	4,307	19.04	5,858	1042	17.78	38,206	13,352	34.95	9,029	3094	34.27			
Sorghum	36	35	98.36	2	2	96.36	-	-	-	8766	4255	48.54	4959	3365	67.86			
Finger millet	-	-	-	-	-	-	-	-	-	407	406	99.93	65	65	99.93			
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-	27,470	9,592	34.92	7,134	2,811	39.4			
Rice	27	26	98.1	3	3	98.1	1	1	98.1	2362	1842	78.01	914	776	84.98			
Pulse	6,126	1,698	27.72	221	74	33.73	406	432	92.69	22,347	6,160	27.57	7,641	2,895	37.88			
Horse/Faba beans	217	218	99.83	3	3	99.83	-	-	-	-	-	-	-	-	-			
Field peas	689	488	70.86	18	15	83.7	-	-	-	2,957	1,597	54.03	1200	743	61.88			
Haricot beans	5,220	1,555	29.78	200	72	36.19	466	432	92.69	10,060	3,792	37.69	3576	2423	67.75			
Chick peas	-	-	-	-	-	-	-	-	-	3,422	4,368	51.72	2534	1431	56.46			
Lentiles	-	-	-	-	-	-	-	-	-	1,991	1703	85.52	322	294	91.27			
Vetch/Grass peas	-	-	-	-	-	-	-	-	-	451	450	99.96	9	9	99.98			
Soya beans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Fenugreek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Gibbo	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Oil seeds	-	-	-	-	-	-	-	-	-	242	242	99.98	55	55	99.98			
Nueg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Linseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Ground nuts	-	-	-	-	-	-	-	-	-	242	242	99.98	55	55	99.98			
Safflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Sesame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Rapeseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			

Cont'd

Crop	Irrigation						Extension package					
	Holder			Area (Ha)			Holder			Area (Ha)		
	Estimate	SE	CV	Estimate	SE	CV	Estimate	SE	CV	Estimate	SE	CV
All	253,195	31,403	12.4	50,060	5,793	11.57	223,489	28,715	12.85	88,027	15,951	18.12
Cereals	242,203	30,994	12.8	47,192	5,541	11.74	206,930	27,559	13.32	81,430	15,517	19.06
Teff	2,350	1,668	70.99	332	288	86.79	19,290	6,863	35.58	7,099	2,919	41.12
Barley	17,189	8,756	50.94	1,810	718	39.69	62,810	16,713	26.61	29,370	9,477	32.27
Wheat	1,133	806	71.09	102	72	70.9	28,253	9,256	32.76	11,212	4,241	37.83
Maize	229,097	29,755	12.99	44,175	5,253	11.89	125,200	21,181	16.92	28,035	5,301	18.91
Sorghum	5,365	2,691	50.15	720	345	47.84	6,564	4,132	62.95	5710	5220	91.41
Finger millet	432	431	99.77	54	54	99.77	-	-	-	-	-	-
Oats/ 'Aja'	-	-	-	-	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	27	26	98.1	3	3	98.1
Pulse	23,112	6,227	26.94	2,866	1,265	44.13	53,522	11,403	21.31	6,283	1953	31.08
Horse/Faba beans	200	199	99.73	2	2	99.73	-	-	-	-	-	-
Field peas	777	549	70.67	19	15	77.84	3,508	2826	80.57	941	782	63.08
Haricot beans	9,807	2,020	20.6	587	167	28.52	41,281	9,942	24.08	2,993	895	29.9
Chick peas	8,225	4,465	54.28	1,450	960	66.18	7,545	4,228	56.04	2024	1420	70.17
Lentiles	1,464	873	59.62	75	56	74.56	3200	1905	59.51	325	252	77.46
Vetch/Grass peas	4,681	2,820	60.24	603	494	81.95	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek	2,368	1,675	70.72	131	83	63.82	-	-	-	-	-	-
Gibto	-	-	-	-	-	-	-	-	-	-	-	-
Oil seeds	465	410	88.26	2	2	84.71	1938	869	44.84	314	268	85.53
Nueg	-	-	-	-	-	-	445	444	99.85	3	3	99.85
Linseed	-	-	-	-	-	-	-	-	-	-	-	-
Ground nuts	-	-	-	-	-	-	599	363	60.53	26	19	73.22
Safflower	-	-	-	-	-	-	-	-	-	-	-	-
Sesame	55	39	69.9	-	-	89.71	1151	710	61.68	285	267	93.85
Rapeseed	409	408	99.71	2	2	99.71	-	-	-	-	-	-

Table 2. Holders Applying Inputs by Educational Status

Country Level																
Educational Status of Holders	Crop Holders			Fertilizer			Improved Seed			Pesticide			Irrigation			
	Estimate	SE	CV	Estimate	SE	CV	Estimate	SE	CV	Estimate	SE	CV	Estimate	SE	CV	
Illiterate	2,652,207	58,887	2.22	287,940	23,164	8.04	55,308	7,685	13.89	135,640	15,437	11.39	162,120	21,892	13.5	
Literate	214,639	14,886	6.94	19,647	3,660	18.63	4,528	1,329	29.35	17,716	2,892	16.32	20,840	4,227	20.28	
Grades 1 - 3	486,209	16,877	3.43	75,759	7,643	10.09	18,061	3,638	20.14	36,334	5,472	15.06	27,222	4,664	17.13	
Grades 4 - 6	534,551	17,493	3.27	105,874	8,921	8.43	27,124	3,766	13.89	38,017	5,392	14.18	25,239	4,152	16.45	
Grades 7 - 8	196,774	9,864	4.96	51,120	5,239	10.25	13,325	2,425	18.2	16,865	3,740	22.15	13,478	3,024	22.44	
Grades 9 - 11	53,848	5,425	10.08	14,076	2,771	19.68	3,858	1,060	27.47	6,753	3,174	36.28	3,572	881	27.46	
Grade 12 complete	27,721	3,621	13.06	10,344	2,272	21.97	1,931	752	38.93	1,991	959	48.15	726	419	57.84	
Above grade 12	5,501	1,486	27.02	1,423	664	46.69	603	426	70.66	445	407	91.57	-	-	-	
Total	4,173,450	76,026	1.82	566,182	39,056	6.9	124,737	14,641	11.74	255,682	28,525	11.16	253,195	31,403	12.4	

Table 3. Holders Applying Inputs by Age group

Country Level																
Age group	Crop Holders			Fertilizer			Improved Seed			Pesticide			Irrigation			
	Estimate	SE	CV	Estimate	SE	CV	Estimate	SE	CV	Estimate	SE	CV	Estimate	SE	CV	
Below 18	17,237	2,181	12.65	1,098	485	44.19	421	291	69.11	1242	568	45.75	147	93	63.19	
18 - 20	84,301	6,188	7.34	9,599	2,314	24.11	2904	897	30.9	3,361	928	27.61	4,518	1,299	28.74	
21 - 24	201,563	9,721	4.82	23,290	3,512	15.08	3,951	986	24.96	17,991	3,490	19.4	13,122	2,655	20.23	
25 - 29	559,219	17,454	3.12	70,733	7,400	10.46	18,233	3,097	16.98	37,376	5,586	14.84	31,786	4,975	15.65	
30 - 39	1,228,430	33,133	2.7	176,887	14,638	8.28	40,082	5,744	14.33	74,453	10,314	13.85	68,547	9,324	13.6	
40 - 49	885,059	23,767	2.69	129,313	9,732	7.53	28,641	3,781	13.2	59,967	8,777	14.84	61,297	9,157	14.94	
50 - 59	583,971	18,102	3.1	83,570	7,888	9.44	19,861	3,270	16.47	31,578	4,455	14.11	33,508	5,357	15.99	
60 and above	611,537	18,269	2.99	71,692	7,265	10.13	10,643	2,404	22.59	29,713	4,243	14.28	40,187	6,451	16.05	
Not stated	2,133	805	37.72	-	-	-	-	-	-	-	-	-	83	77	92.4	
Total	4,173,450	76,026	1.82	566,182	39,056	6.9	124,737	14,641	11.74	255,682	28,525	11.16	253,195	31,403	12.4	

## **Appendix III - Questionnaires**

