

FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
CENTRAL STATISTICAL AGENCY

LARGE AND MEDIUM SCALE COMMERCIAL
FARMS SAMPLE SURVEY

2010/11(2003 E.C)

**RESULTS AT COUNTRY AND
REGIONAL LEVELS**

VOLUME VIII

STATISTICAL REPORT ON
AREA AND PRODUCTION OF CROPS, AND FARM
MANAGEMENT PRACTICES

ADDIS ABABA
August, 2011

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Chapter I

1. Background

Agriculture is the primary activity in Ethiopia, where about 84 percent of the country's population engaged in various agricultural activities and generates its income for household consumption to sustain its livelihood. Moreover, the country generates the lion share of its foreign currency earnings from the sales/export of agricultural commodities abroad and currently the sector contributes about 42 percent to the country's GDP, and above all, the sector is believed to be the main source of capital to be accumulated for the process of establishing the future industrialized Ethiopia, which again shows the determinant role played by the sector to bring about sustainable economic development for the country in the years to come.

Ethiopian agriculture have suffered for years from the use of traditional farm implements and subsistence farming system as well as limited use of modern farm inputs, that resulted to the sector's poor performance (i.e. low productivity of the sector). However, the surplus production along with productivity increments that have been registered during the last six consecutive years, indicated that the agricultural system as a whole and the crop production sub sector in particular is showing improvement in terms of productivity, the extent and use of modern farm inputs, and modern farming system practices, ...etc..

Despite those bottlenecks that hampered the sector's productivity, Ethiopian agriculture, as it had been used for centuries in the past and till the present, the sector is believed to continue being the leading and determinant sector of the country's future economic development.

As mentioned earlier, improvements that have been registered in the overall performance of the agricultural sector, during earlier consecutive years, cannot be considered as an end by itself but could be taken as an indicator for the need of much more efforts to be made by the government and the concerned

stakeholders to adopt and implement the available modern and improved agricultural technologies that help attain enhanced productivity and maintain sustainable development of the sector.

Thus, all efforts required to bring about the desired change/improvements on the overall performance of the agricultural sector as a whole, could only be successful, if and only if policies, strategies, implementation plans and programs and related efforts are geared towards addressing the problems identified in the two agricultural sub- sectors. The two major agricultural sub sectors are:-

- a) **Private agricultural holding:** this sub-sector includes rural-urban small and fragmented privately owned agricultural holdings on which all types of agricultural activities such as crop production, livestock rearing...etc, are performed by the operator/holders to obtain agricultural produce for self/family consumption and sometimes for sell. However, over 95 % of the annual gross total agricultural output of the country is said to be generated from this sub-sector,
- b) **Commercial Farms:-** this sub-sector refers to the farms that include state and private commercial farms mainly established for the purpose of profit making by selling agricultural products at local market and/or abroad. These farms are commonly owned and operated by government, private companies and non-governmental institutions, such as private individual investors, share holders, religious and non- religious institutions...etc. The sub-sector is mainly characterized by the use of relatively capital intensive, mechanized and market oriented farming system, with increased use of modern farm management practices and inputs such as, use of high tech-farm machineries and implements, irrigation scheme, use of chemical fertilizers, pesticides and improved seeds.

In Ethiopia, however, due to various reasons, commercial farms are not widely spread, and as a result of which the contribution of these farms to the country's gross total agricultural output is limited only to about 5 percent. According to some written documents, the introduction of Commercial farms in Ethiopia goes back to the Pre-Derg era, where government owned pilot state and research farms on the basis of Yugoslav model [MOSFD 1986-370], which paved the way for the establishment of private commercial, state and institutional farms in Awassa, Arbaminch, Zeway and Shewarobit which latter on transformed into well organized and relatively mechanized large and medium scale state, private and institutional farms that are collectively called 'Commercial Farms'.

Since then, large and medium scale commercial farms in Ethiopia had been forced to be reorganized by undertaking various structural and organizational adjustments with varying legal status including ownership over a number of economic policy changes that took place over the last three decades. Nevertheless, a decade has passed since the existing Commercial farms reorganized on the basis of market oriented economic policy adopted by the existing Federal Democratic Republic Government of Ethiopia.

This report is the fourth of its type, where the first one was published in the 2002/03 (1995 E.C.), presenting the results of the 2001/02 (1994 E.C.) and the second one was published in the 2008/2009(2001 E.C). During the years between 2002/03 (1995 E.C.) and 2008/2009(2001 E.C) Central Statistical Agency had conducted more than two surveys on Commercial farms but failed to produce the results due to various reasons mainly due to unwillingness of respondents to give accurate information. However, after making a through revisions and improvements on the previously adopted questionnaires, the third report on data collection methodology and related survey document in the year 2009/10 (2002 E.C.), CSA conducted Large and Medium Scale Commercial farms sample survey covering the whole country.

This report, therefore, presents quantitative information on total area, volume of production and yield of major crops (temporary and permanent), and total crop area under different farm management practices as obtained and summarized from the results of the 2010/11 (2003 E.C.) commercial farms sample survey of the Meher Season.

2. Objectives of the 2010/11 (2003 E.C.) Large and Medium Scale Commercial Farms Survey

The major objectives of the 2010/11 (2003 E.C.) commercial farms sample survey is to provide:-

- Statistical data on crop area and volume of production by farm and crop type to fill-in the existing data gap,
- Detail data on various inputs applied for large and medium scale agricultural production mainly quantity of Chemical fertilizers, improved seeds & indigenous seed.

The provision of the above mentioned information are important for planning and policy formulation as well as for promoting the establishment of Commercial farms, and to design and formulate means and ways as how to facilitate the transformation of the existing small and fragmented private peasant agricultural holding to Commercial farms in the long run.

Chapter II

Survey Methodology, Operation and Data Processing

2. Survey Methodology

2.1 Scope & Coverage

The 2010/11 large & medium scale commercial farms cover all urban & rural parts of the country. Considering the cost and manageability of field work a sample of 2851 farms were planned and decided to be covered at national level. But the survey succeeded to cover 2289 farms. This sample is allocated to each region based on number of farms each region has. Number of farms planned and covered is given in Table 1.

2.2 Sampling frame

The sampling frame which is list of commercial farms with their cropland area size and livestock number is collected from all part of the country through CSA Branch Statistical Offices. The collected farm list is compiled at the head office and the functional and non functional farms at the time of updating are identified. Farms which are selected directly and those selected by sample are identified based on this frame. Then the lists of commercial farms to be covered by the survey are distributed back to the Branch Offices for the actual survey.

2.3 Sample design

Two separate sample design is prepared for Commercial farms involved in crop production and livestock. Before the sample selection was done, the cut off point for the farms was decided. Separate cut off point for farms involved in crop production and those involved in livestock was set. Farms having total area/number of livestock above the cut off point are selected with certainty where as farms having area/ number of livestock below the cut off point is sampled using probability proportional to size, size being the total area / number of livestock of the farms. For farms involved in livestock simple random sampling technique is used for selection.

The estimation procedure and measure of their precision are given in Appendix I

Table 1 Number of planed and covered farms

Region	Number of	
	Planned	Covered
Tigray	1051	640
Afar	119	101
Amhara	541	492
Oromia	408	380
Somali	67	67
Benshangul-Gumuz	188	183
SNNPR	345	305
Gambella	88	76
Harari	7	7
Addis Ababa	38	35
Dire Dawa	5	3
Total	2851	2289

3. Organization of Field Work

Field organization is usually used as a means to link the data source with the central office to properly carry on the field data collection operations and for the strict control and supervision of the fieldwork.

Since the Commercial farms sample survey is part and parcel of the 2010/11 (2003 E.C) annual Agricultural Sample Survey, the field organization setup that has been used for the agricultural sample survey of private agricultural holdings was also used for the enumeration of Commercial farms. Moreover, as it has been planned earlier, the actual field data compilation operation for commercial farms was scheduled to be started at the time the field data collection operation that have been carried out for private agricultural holdings were almost due completion. The field worker who was assigned for Commercial farm enumeration was responsible to cover a minimum of 1 and a maximum of 5

farms depending on the number of sampled farms within the territory of the Branch Statistical Office the enumerator belongs to. Moreover, senior supervisors and coordinators who accomplish their assignment in the private peasant agricultural holdings enumeration were assigned as supervisors for quality control that includes spot check, re-interview, and check the consistence of information in the filled-in questionnaires...etc.

3.1 Training

Country experience indicates that it is essential to provide instruction manual and training for survey enumerators and supervisors in order to standardize procedures, secure common understanding of tasks to be performed and provide a reference guide during enumeration. Good data quality is assured when the training meets its objectives and the enumerators and supervisors show a sense of responsibilities and enthusiasm in the exercise of the survey operations.

However, due to their scattered location, and a number of technical and administrative reasons, the field data collection activities for commercial farms was planned to be carried out by senior supervisors. Accordingly, CSA organized a two stage training program that is a training of trainers and followed by training of supervisors. The first stage training was given at the CSA headquarter in Addis Ababa to the trainers consisting of professional staff from different departments at head office. The second stage training was wider in its scope, focusing on reviewing the details of the prepared survey documents and followed by discussions on the past survey experience that took place in 25 training centers located at CSA Branch Offices .

3.2 Method of enumeration

Commercial farms are expected to properly register and document each and every activity carried out in each and every plot of land mainly for administrative purpose. In line with this, the data collection operation that was carried out during 2010/11(2003 E.C.) Commercial farms sample survey was

performed by interviewing the farm Owners/managers. The areas of these farms are directly measured by GPS except that of state owned farms whose areas are collected by interview.

4. Data processing

4.1 Editing, Coding and Verification

In the 2010/2011(2003E.C) Commercial farms sample survey, the filled-in forms retrieved from the Branch Statistical Offices were primarily received and systematically registered at the documentation unit of the CSA head quarters in Addis Ababa. Before launching the actual editing and coding activities, the Agriculture, Natural Resources, and Environment Statistics Directorate staff gave adequate training to 38 editors and coders who latter on carried out the manual editing, coding and verification of the filled-in Commercial farms questionnaires.

The manual editing and coding activities of the filled-in forms were done region by region. To ensure the quality of the manual editing and coding work, verification of the completed questionnaires was carried out on 100% basis.

For the total country, the editing, coding and verification of the filled-in forms for the commercial farms took 38 editors and about 14 working days.

4.2 Data Entry, Cleaning and Tabulation

About 38 data encoders were assigned to undertake the data entry activity of the 2010/11 filled-in and edited questionnaires of the large and medium scale farms. Before starting the actual data entry operation, data encoders were trained for about a half day using computer programs developed by the Data Processing Department staff. The Programmers prepared the data entry programs using CSPro.

The data entry exercise was carried out using 38 personal computers (PC's), and it was done region by region as in the case of the manual editing, coding and verification. In order to check the quality of the entered data, verification exercises were carried out. To this end verification activity, on 100% basis, was carried out through the process of re-entering the data. For the total country, the whole data entry process of the filled-in forms on commercial farms took 38 entry clerks around 14 working days.

Data entered into the computer needs to be checked for completeness, consistency and validity. For this purpose, computer edit programs were prepared. Using printouts from these programs and referring to the original filled-in forms, corrections were made by trained manual data cleaning technicians. Moreover, other data-cleaning computer operators were involved in making the actual corrections of the data on the computer. Additionally, an intermediate set of instructions or programs were made available and applied on the data to prepare information suitable for tabulation. These programs were prepared using CSPro and IMPS softwares. Like IMPS Software, CSPro is used as a tool for entering, editing and tabulating data.

Data made ready for tabulation through the process of cleaning and intermediate programs was finally used to generate the required tables. This was done using tabulation programs developed by the senior programmers of the Data Processing Department.

5. Concepts and Definitions

Information on all items of agriculture is not useful until the items are distinctly defined and understood. The procedure of stating data items and related terms is a prerequisite for making standards and definitions for collection and compilation of agricultural data. The intent of using standard concepts and definitions is not only to provide quality data but also to ensure that the right items are enumerated and compiled accurately to reflect the agricultural situation. Standard concepts and definitions used in a survey setup provide clear

linkages between various tables of the current and previous surveys and maintain consistent enumeration and measurement of variables of interest. To this end, the CSA has put a lot of efforts into communicating concepts and definitions to the survey field staff through training and instruction manuals. The concepts and definitions used in the census were made to conform to the FAO standard with a slight adaptation of a few of them to suit the agricultural situation in Ethiopia. The concepts and definitions used in commercial farms sample survey includes:-

- **Commercial Farms**:- refers to certified (legally established) farms owned/operated by government, private investors, and/or share holders, which are profit oriented large and medium scale farms. These farms relatively use capital intensive, mechanized and market oriented farming system, as well as modern farm management practices and inputs such as irrigation scheme, fertilizers, pesticides . . . etc, to attain high productivity per unit of area.
- **Agriculture**:- The growing of crops and/or raising of livestock for own consumption and/or sale.
- **Crop**:- Includes Cereals, Pulses, Oilseeds, Vegetables, Root Crops, Fruits, Coffee, Inset, Chat, Hops, Sugar cane, Cotton, Tobacco ... etc produced for food, making drinks, stimulation and making fabrics or clothing.
- **Crop Production**:- The processes of growing and harvesting of the above crops for own consumption and/or sale.
- **Temporary Crops/Annual**:- Annual temporary crops are crops which are grown in less than a year's time, sometimes only a few months with an objective to sow or replant again for additional production following the current harvest. Continuously grown crops planted in rotation are also considered as temporary crops since each is harvested and destroyed by ploughing in preparation for each successive crop.

- **Permanent Crops**:- crops which are grown and occupy land for a long period of time, not requiring replanting for several years after each harvest, are considered as permanent crops. All fruit trees (i.e. Oranges, Mandarin, Banana ...etc) and trees for beverages (i.e. Coffee, Tea, Hops...etc.) are considered permanent crops but meadows and pastures are excluded.
- **Meher (main) Season Crop**:- any crop harvested between Meskerem (September) and Yekatit(February) is considered as Meher season crop.
- **Belg Season Crop**:- any crop harvested during the months of March (Megabit) and August (Nehase) is considered to be Belg season crop.
- **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 organic and/or inorganic nutrients to the soil intended to increase the amount of plant nutrients available for crop growth. Usually, fertilizers are divided into two parts, natural and industrial. Examples of natural fertilizers are farmyard manure, wood ashes, etc, while industrial fertilizers are DAP (Di- Ammonium phosphate), UREA (Ammonium Nitrate), ... etc.
- **Pesticides**:- Pesticides are chemicals useful for mitigation, control or elimination of pests which are troublesome or harmful to crops. Insecticides, herbicides and fungicides are all considered as pesticides.

Chapter III

Summary of the 2010/11 (2003 E.C.) Large and Medium scale Commercial farms Sample Survey results

3.1 Introduction

The type of crops on which data were collected during the 2010/11 (2003 E.C.) commercial farms sample survey are those food crops that are used for domestic consumption and for export as well as those crops used as raw material for domestic agro-industries. Based on their biological classifications these crops are categorized into three major groups i.e. grains (which include cereals, pulses and oil crops), vegetables and root crops from the category of temporary crops and three major groups i.e. Fruit crops, Cash crops and industrial crops from the category of permanent crops.

In this chapter of the report, discussions on major findings of the survey results on cropped area and production of temporary and permanent crops of Meher season crops presented in Section 3.2. Likewise, major findings on Farm Management Practices for Temporary and Permanent crops for Meher season is presented in section 3.5, as obtained and summarized from the results of the 2010/11 (2003 E.C.) Large and Medium Scale Commercial Farms Sample Survey.

3.2 Meher Season's Total Cropland Area and Production of Temporary Crops

a) Grain Crops

Grain crops refer to the major crop categories that included cereals, pulses and oilseeds, which constituted the major food crops for the majority of the country's population. Besides being staple food crops, the production of grain crops in Ethiopia serves as a source of foreign currency earning that will be used as an input for all efforts being made to bring about sustainable economic growth in the country.

In Ethiopia, therefore, the production of grain crops is the most widely spread crop production activity both in terms of the extent of cropped land area and volume of production when compared with crops such as vegetable and root crops.

Summary Table 1 Estimates of total cropland area by major crop category of Meher season for commercial farms: Country level, 2010/11 (2003 E.C.)

<i>Major Crop Category</i>	<i>Total Cropland area in Hectare</i>	<i>% Share</i>
<i>Grain</i>	<i>452,244.02</i>	<i>96.89</i>
<i>Vegetables</i>	<i>7,309.16</i>	<i>1.57</i>
<i>Root crops</i>	<i>4,419.64</i>	<i>0.95</i>
<i>Other Temp. crops</i>	<i>2,808.61</i>	<i>0.60</i>
<i>All Temporary Crops</i>	<i>466,781.43</i>	<i>100</i>

Summary Table 2 Estimates of total production harvested by major crop category and season for commercial farms: Country level, 2010/11 (2003 E.C.)

<i>Major Crop Category</i>	<i>Total Production in Quintals</i>	<i>% Share</i>
<i>Grain</i>	<i>9,327,412.24</i>	<i>78.88</i>
<i>Vegetables</i>	<i>1,403,234.19</i>	<i>11.87</i>
<i>Root crops</i>	<i>996,331.80</i>	<i>8.43</i>
<i>Other Temp. crops</i>	<i>97,842.43</i>	<i>0.82</i>
<i>All Temporary Crops</i>	<i>11,824,820.66</i>	<i>100</i>

According to the results of the 2010/11 (2003 E.C) Large and Medium Scale Commercial Farms sample survey, the total area covered by grain crops was found to be 452,244.02 hectares (96.89 % of the total country level temporary crops covered land area), from which a total of **9,327,412.24** quintals of production, (78.88% of the total country level production of temporary crops) was obtained during 2010/11(2003EC) Meher season harvest.

The results of this survey indicates that, both the cultivated land area and volume of production of grain crops obtained from crop production activity carried out during the 2010/11 Meher season, contributed the lion share.

Figure 1 Percentage distribution of total crop land area by major crop category of Meher season for commercial Farms, country level 2010/11(2003)

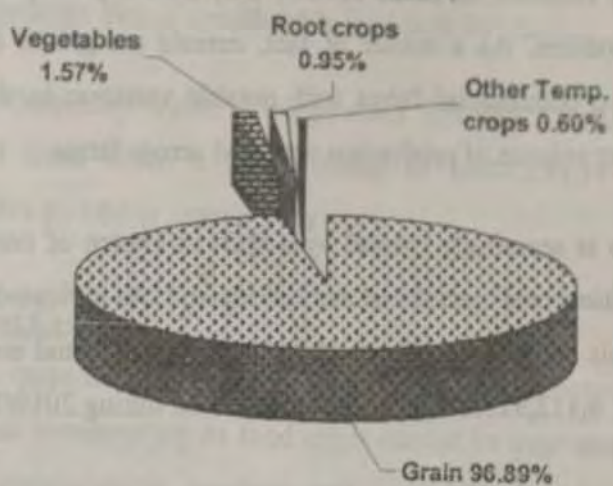
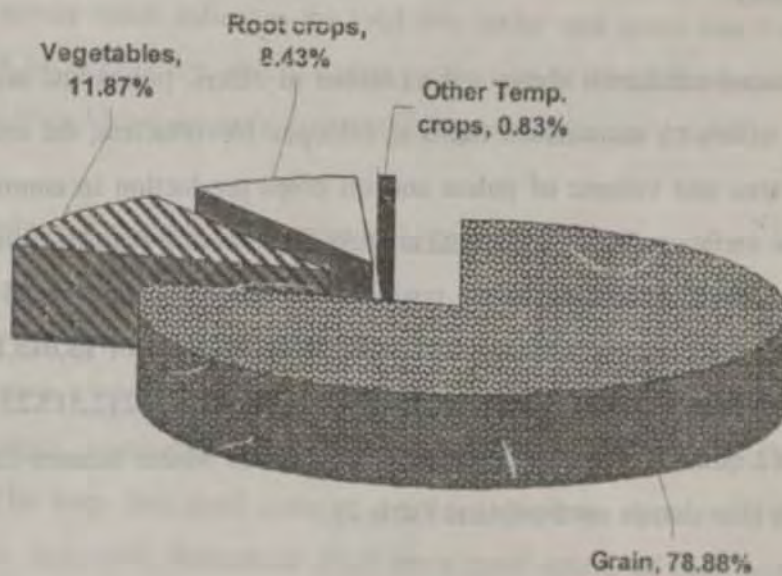


Fig.2 percentage distribution of total production harvest by major crop category of Meher season for commercial farms, country level 2010/11(2003)



Moreover, as it has been mentioned earlier, cereals which are classified within the grain crops category, are also produced in greater volume compared to the other crops by commercial farms because they are the principal staple crops and export commodities. As a matter of fact, cereals are grown in almost all the survey covered commercial farms with notable variation in the extent of area planted and the volume of production obtained across farms.

This variation is seemingly caused by a shift in choice of crops, difference in weather conditions and speculated market demand. As indicated in the Statistical Table 2, cereals covered a total of 181,773 hectares of land area, from which a production of 6,112,919.39 quintals was obtained during 2010/11 Meher season harvest.

Similarly, pulses and oilseeds within the grain crops category are rich in their nutrient content and being used as essential part of the dietary requirement for most Ethiopians. Above all pulses and oil crops form a significant commodity group of export that brings a considerable amount of foreign currency earnings for the country.

For the reasons mentioned above and a number of others, pulses and oil crops are grown widely by commercial farms in Ethiopia. Nevertheless, the extent of crop land area and volume of pulses and oil crops production in commercial farms show variation from one farm to another for the same reasons mentioned for cereals above. According to the results of the 2010/11 commercial farms sample survey, pulses and oil crops covered a total land area of 13,045.18 and 257,425.76 hectares, from which a total production of 212,515.23 and 3,001,977.62 quintals was obtained during the 2010/11 Meher seasons harvest, respectively (For details see Statistical Table 2).

b, Vegetables

Vegetables are crops that are rich in vitamins necessary for the healthy growth of humans. Moreover, due to their high nutritional value vegetables do have ever

rising demand both in local and foreign markets, and are classified among those export commodities' that generate considerable amount of foreign currency earnings to the country. As a matter of these facts commercial farms in Ethiopia used to grow vegetables over a considerable land area for years.

As indicated in Summary Table 1, vegetables covered a total of 7,309.16 hectares of land from which a total volume of 1,403,234.19 quintals was obtained in 2010/11 by Meher season's harvest.

c. Root Crops

Like that of grain crops the contribution of root crops such as potatoes and sweet potatoes for human consumption as food crops cannot be over emphasized. The majority of the population in Southern and South Western Ethiopia mainly depends on root crops for their daily food consumption. In addition to serving as food crop and staple food at the time of surplus and/or deficit production years, root crops yield industrial and pharmaceutical products. Moreover, it should be noted that root crops are also a good source of cash and foreign exchange.

As the survey result indicates, the total area under root crops was found to be 4,419.64 hectares, from which a total production of 996,331.80 quintals was obtained from Meher season's harvest (See Summary Tables 1 and 2).

3.3 Cropland Area and Production of Permanent Crops

Permanent crops are long-term crops, which do not have to be replanted for several years after each harvest. These include tree crops such as coffee, enset, chat, oranges, mangoes, bananas, papayas, avocados...etc. It doesn't include cotton. The trees that yield oranges; mangoes, papayas, apples and other are known as fruit trees. Permanent crops are a good source of cash both for the farms and the country for generating income and foreign exchange.

According to the survey result permanent crops covered a total land of 109,314.55 hectares with a total production of 33,761,029.85 quintals obtained from commercial farms during the year 2010/11 Meher season harvest. These area and production for permanent crops does not include the values of cotton.

For simplicity of description of the statistical tables and comparison purposes permanent crops have been grouped into three categories. The categories are fruit crops, cash/stimulant crops, industrial and other permanent crops.

Summary Table 3. Estimates of total production harvested of Meher season's permanent crops by major crop category for commercial farms: National level 2010/11 (2003 E.C.)

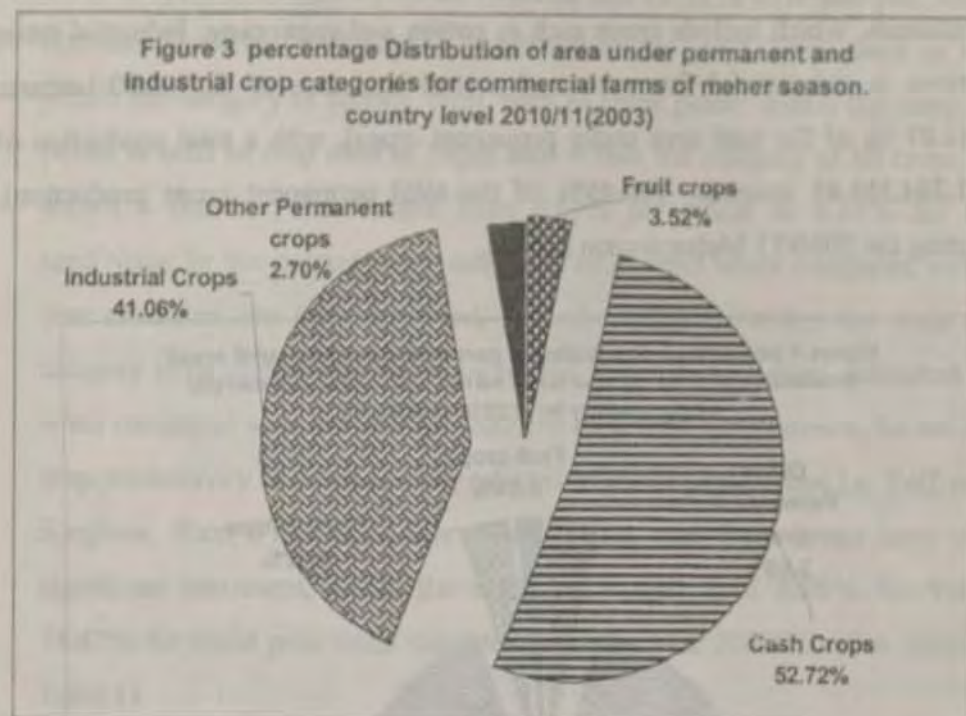
Major Crop Categories	Total			
	Crop land Area		Production	
	in Hectare	%	in Quintals	%
Fruit crops	5,266.91	3.51	706,119.16	2.05
Cash Crops	78,913.06	52.72	1,217,431.18	3.52
Industrial Crops	61,466.50	41.07	31,284,352.81	90.45
Other Permanent crops	4,034.79	2.70	1,377,829.12	3.98
All Permanent crops	149,681.26	100	34,585,732.29	100

A Fruit Crops

Fruit production is relatively new to Ethiopian agricultural system, with commercial fruit production dating back to only about six decades. Therefore, most of the important fruits that are produced in commercial farms are recent introductions into the country. However, various kinds of fruit crops grow in different regions of the country yielding varying quantities of fruits within commercial farms.

As indicated in Summary Table 3, fruit crops cover a total of 5,266.91 hectares (3.51% of the total crop land area under permanent crops), with about 706,119.16 quintals of production (2.05% of the total permanent crops production), during the 2010/11 Meher season harvest (for the details see

summary Table 3, figures 3 & 4). Bananas, oranges and mangoes took the highest area and production share of fruit crops (See Table 2)

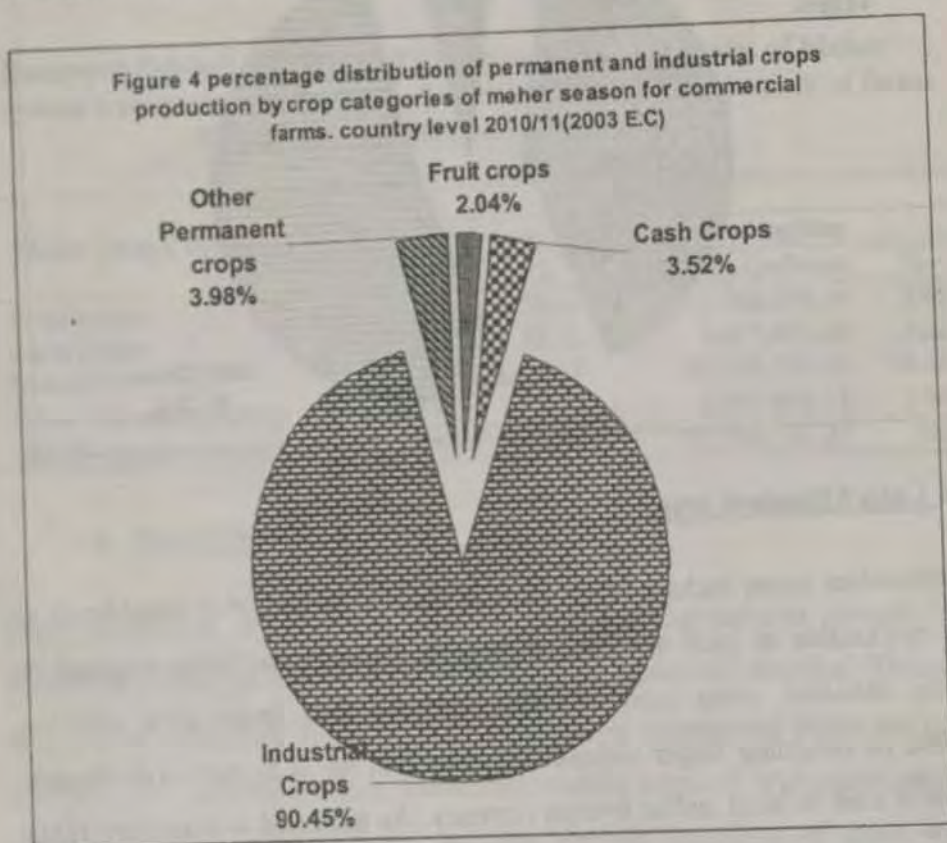


B. Cash/Stimulant crops

Cash/stimulant crops include crops such as tea, coffee and chat considered as easily marketable at local and foreign markets. Commercial farms engaged in growing stimulant crops such as coffee and tea uses larger area with the objective of obtaining larger volume of production so as to earn considerable amount of cash in local and/or foreign currency. As indicated in summary Table 3 cash/stimulant crops were grown on an estimated total land area of 78,913.06 hectares, with a total production estimated at 1,217,431.18 quintals of production, contributing about 52.72 % and 3.52% to the total cropland area and production of permanent crops, respectively (For details see Summary Table 3).

C Industrial Crops

Industrial crops refer to crops commonly used as raw material for domestic agro-industries, which include crops such as cotton and sugarcane. Industrial crops grown in commercial farms covered a total land area of 61,466.50 hectares (41.07 % of the total area under permanent crops), with a total production of 31,284,352.81 quintals (90.45% of the total permanent crops production), during the 2010/11 Meher season harvest.



3.4 Comparison of the current year (2010/11) Grain Crops yield with last Year (2009/10), estimates.

Table 1 of the report attempts to compare area covered and total production estimates of selected important food crops obtained from the 2010/11 (2003 E.C.) Commercial farms Survey with last year i.e. 2009/10 area and crop production estimates of the same crops.

Both the estimated cropped land area and the volume of grain crops production obtained have increased by about 10.80 % and 11.13% over last year 2009/10 estimate. However, with regard to estimated crop yield, crop such as wheat within the category of cereals, crop such as chick pease within the category of pulses as well as crop such as Niger seed within the category of oil crops, have shown a decrease that ranges from 0.69% for wheat to 6.44% for Niger seed/Neug/ in the current year estimated crop yield when compared with last year estimates. On the other hand, a number of crops within the grain crops category have shown significant increment in the current year estimated yield when compared with last year i.e, 2009/10 estimates. For instance, the estimated crop productivity of the following selected important food crops i.e. Teff, maize, Sorghum, Rice, Field peas, Horse/Faba beans, and Soya beans have shown significant increment, where the increment ranges from 8.55% for Teff to 74.47% for Field peas when compared with the year 2009/10 (See Statistical Table 1).

3.5 FARM MANAGEMENT PRACTICE

3.5.1 Introduction

The overall performance of a country's agriculture, usually affected by quite a number of factors, among which the level and extent of using modern agricultural practices (such as increased use of fertilizer, pesticides, and improved seeds...etc) is the first and the most important factor to be considered. This is merely because increased productivity can only be achieved through the use of the above mentioned

farm inputs along with appropriate newly introduced modern farm management practices.

Towards this end, a number of modern techniques and technologies are available to help achieve enhanced crop productivity. The major actors behind achieving

high level of productivity include among others, greater and efficient use of fertilizers, pesticides and improved seeds.

Thus, during the year 2010/11 (2003 E.C) commercial farms sample survey, basic data on the agricultural inputs and practices were collected, summarized and the result are presented in this report.

3.5.2 Cropland Area under Different Agricultural Input and Farm Management Practices

This section of the chapter deals with the agricultural input applied cropland area and quantity of inputs used by commercial farms.

a. Fertilized Cropland Areas and Quantity Applied

Fertilizing materials and mixture are not restricted to in organic chemical but include organic substances such as crop residues, animal dung ...etc. Therefore, fertilizers refer to organic and/or inorganic materials added to the soil with the intention of increasing the amount of plant nutrients available for crop growth. However, in 2010/11 (2003E.C) commercial farms sample survey, data was collected only on the application of chemical fertilizers. The chemical fertilizers that were covered by the survey consisted of DAP (DI-Ammonium phosphate, and UREA (Ammonium nitrate).

The results of the survey indicates that at country level the total Urea and DAP applied cropland area was found to be 134,173.39 and 136,502.64 hectares, which accounted for 21.77% and 22.14% of the total cropland area reported for Commercial farms at country level, during the 2010/11 Meher season harvest. (For details see Table 3)

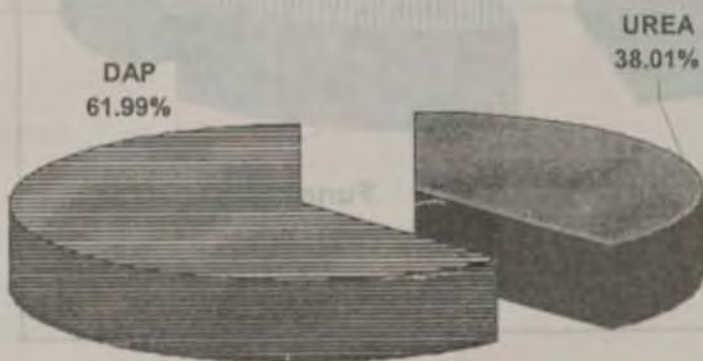
Figure 5 Percentage distribution of Chemical Fertilizers applied cropland area by type of fertilizer for commercial farms of Meher season . country level 2010/11(2003E.C)



b. Quantity of Chemical Fertilizer Applied

According to the results of the survey, the total quantity of chemical fertilizers applied during 2010/11 Meher season for commercial farms was found to be 394,474.47 quintals. Out of which the share of DAP was 61.99% while the remaining 38.01% share was found to be the contribution of UREA .(For details see Table 3 and Figure 6).

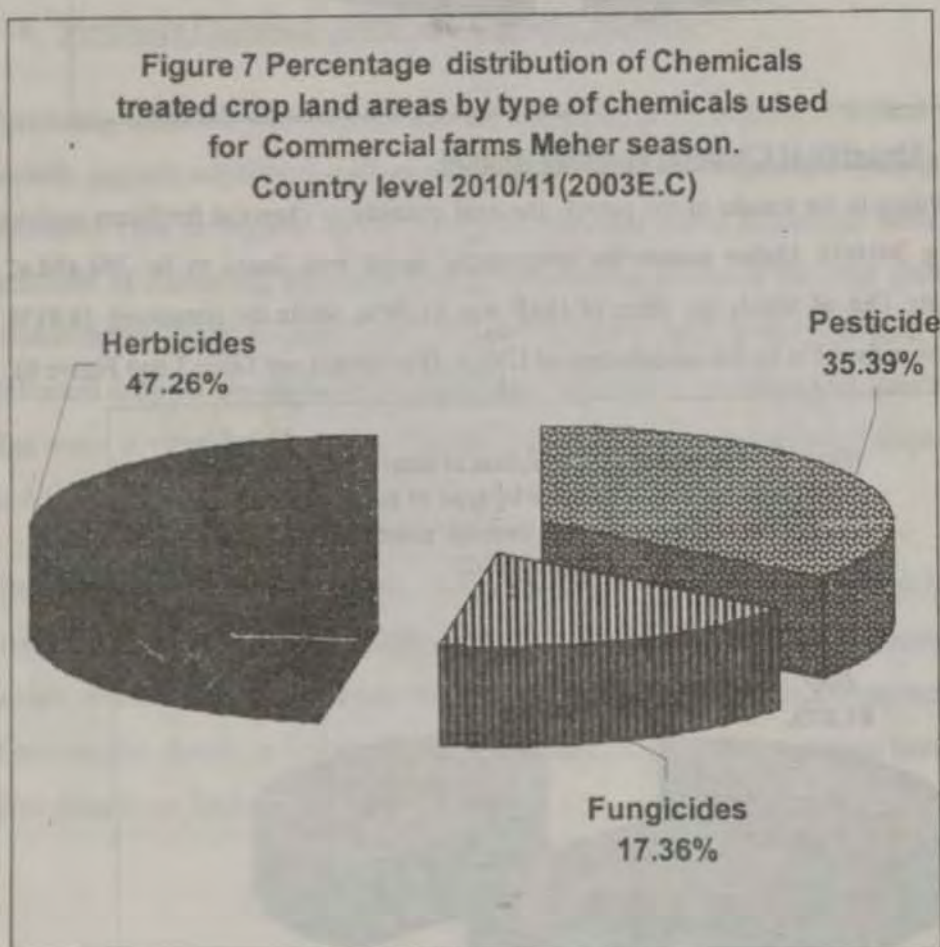
Figure 6 Percentage distribution of total amount of chemical fertilizers applied by type of fertilizer for commercial farms meher season. country level 2010/11(2003E.C)



c. Cropland Areas Treated with Chemicals.

Pesticides, fungicide and herbicides are chemicals that are commonly used for the control of mitigation of elimination of pests that are detrimental to crops growth and productivity

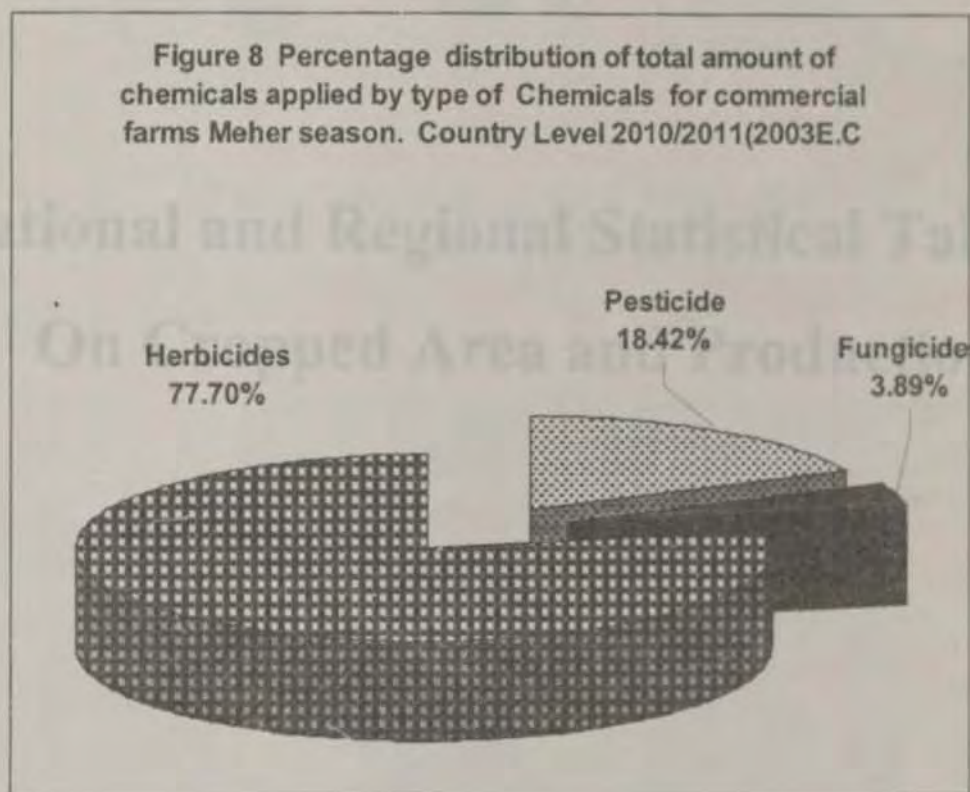
As indicated in Table 3, the total cropland area treated with pesticides, fungicides and herbicides in commercial farms was found to be 78,838.64 hectares, 38,667.85 hectares and 105,278.10 hectares of cropland area, respectively. (For details see Table 3 and Figure 7).



d. Quantity of Chemicals used

The total quantity of chemicals used during 2010/11 for commercial farms was found to be 38,525.92 quintals during Meher seasons, out of which the share of pesticides and fungicides was 18.42% and 3.89%, respectively. While the remaining 77.70% share was found to be the contribution of herbicides (For details see Table 3 and Figure 8).

Figure 8 Percentage distribution of total amount of chemicals applied by type of Chemicals for commercial farms Meher season. Country Level 2010/2011(2003E.C



National and Regional Statistical Tables On Cropped Area and Production

Country	Cropped area in Hectares		Production in Metric Tons	Crop Production of 1980 (1975/80)
	1975	1980		
Algeria	1,000,000	1,000,000	1,000,000	100.0
Argentina	1,000,000	1,000,000	1,000,000	100.0
Australia	1,000,000	1,000,000	1,000,000	100.0
Brazil	1,000,000	1,000,000	1,000,000	100.0
Canada	1,000,000	1,000,000	1,000,000	100.0
China	1,000,000	1,000,000	1,000,000	100.0
France	1,000,000	1,000,000	1,000,000	100.0
Germany	1,000,000	1,000,000	1,000,000	100.0
India	1,000,000	1,000,000	1,000,000	100.0
Italy	1,000,000	1,000,000	1,000,000	100.0
Japan	1,000,000	1,000,000	1,000,000	100.0
USA	1,000,000	1,000,000	1,000,000	100.0
USSR	1,000,000	1,000,000	1,000,000	100.0
Yugoslavia	1,000,000	1,000,000	1,000,000	100.0

Table 1. Estimates of Cropland Area and Production of Crops For Commercial Farms, 2009/10 (2002 E.C.) and 2010/11 (2003 E.C), Meher (Main) Season

Country	Cropland area in Hectare			Production in Quintals			Crop Productivity/ Yield (QTS/Ha)		
	Crop Types								
	2002 E.C	2003 E.C	% Change	2002 E.C	2003 E.C	% Change	2002 E.C	2003 E.C	% Change
Total.....	535,630.49	616,462.69	15.09	27,413,410.73	46,410,552.95	69.30			
Grain crops.....	408,175.26	452,244.02	10.80	8,393,447.41	9,327,412.24	11.13			
Cereals.....	206,605.16	181,773.08	-12.02	6,019,595.62	6,112,919.39	1.55			
Teff.....	4,028.92	8,784.26	117.98	53,775.13	127,210.27	136.56	13.34	14.48	8.55
Barley.....	1,961.85	1,607.04	-18.09	46,287.79	39,774.45	-14.07	23.59	24.75	4.92
Wheat.....	59,367.45	45,543.87	-23.28	1,974,338.65	1,504,485.73	-23.80	33.28	33.03	-0.69
Maize.....	72,394.16	59,175.41	-18.26	2,509,854.44	2,843,852.92	13.31	34.67	48.06	38.62
Sorghum.....	66,951.22	61,930.58	-7.50	1,400,048.05	1,490,206.90	6.44	20.91	24.06	15.06
Finger millet.....	405.95	423.58	4.34	6,139.98	6,930.04	12.87	15.13	16.36	8.13
Oats / 'Aja'.....	14.04	-	-	223.93	-	-	15.95	-	-
Rice.....	1,480.57	4,304.36	190.72	28,927.66	100,395.24	247.06	19.54	23.32	19.34
Pulse.....	16,208.07	13,045.18	-19.51	235,311.47	212,515.23	-9.69			
Horse / Faba beans.....	691.05	620.78	-10.17	9,676.11	10,868.10	12.30	14.00	17.51	25.07
Field Peas.....	42.26	37.30	-11.74	574.16	884.30	54.02	13.59	23.71	74.47
Haricot beans.....	7,276.88	5,911.61	-18.76	114,668.57	101,353.24	-11.61	15.76	17.14	8.76
Chick peas.....	2,329.55	2,875.75	23.45	38,041.72	45,927.54	20.73	16.33	15.97	-2.20
Lentils.....	29.76	51.26	72.24	335.72	595.47	77.37	11.28	11.62	3.01
Vetch / Grass peas.....	58.83	-	-	936.92	-	-	15.93	-	-
Soya beans.....	5,779.60	3,542.43	-38.71	71,074.27	52,782.95	-25.74	12.30	14.90	21.14
Fenugreek.....	0.15	1.26	740.00	2.00	16.34	717.00	12.96	12.97	0.08
Gibto.....	-	-	-	-	-	-	-	-	-
Oilseeds.....	185,362.03	257,425.76	38.88	2,138,540.32	3,001,977.62	40.38			
Niger seed/neugl.....	2,259.47	2,318.30	2.60	15,803.54	15,171.93	-4.00	6.99	6.54	-6.44
Linseed.....	183.69	45.51	-75.22	2,295.92	813.97	-64.55	12.50	17.89	43.12
Groundnuts.....	1,143.62	755.97	-33.90	19,263.58	13,009.19	-32.47	16.84	17.21	2.20
Safflower.....	5,667.54	71.07	-98.75	72,970.92	1,278.62	-98.25	12.88	17.99	39.67
Sesame.....	171,491.74	253,130.22	47.60	1,985,919.02	2,954,884.73	48.79	11.56	11.67	0.78
Rape seed.....	4,615.97	1,104.69	-76.07	42,287.35	16,819.18	-60.23	9.16	15.23	66.27
Vegetables.....	4,333.57	7,309.16	68.66	624,375.77	1,403,234.19	124.74			
Lettuce.....	825.14	225.92	-72.62	163,198.69	54,526.43	-66.59	197.78	241.35	22.03
Head cabbage.....	88.49	620.60	601.32	20,583.10	187,702.28	811.92	232.60	302.45	30.03

Crop Types	Cropland area in Hectare			Production in Quintals			Crop Productivity/ Yield (QTS/Ha)		
	2002 E.C	2003 E.C	% Change	2002 E.C	2003 E.C	% Change	2002 E.C	2003 E.C	% Change
Ethiopian cabbage.....	31.12	40.39	29.79	2,046.47	4,578.79	123.74	66.77	113.36	72.36
Tomatoes.....	1,370.91	3,477.25	150.00	338,722.31	1,023,480.66	202.16	247.08	298.63	20.86
Green peppers.....	16.53	315.75	1,810.16	1,366.33	34,326.51	2,412.31	82.66	108.71	31.51
Red peppers.....	1,893.12	2,660.07	40.51	81,537.27	95,720.72	17.40	43.07	35.98	-16.46
Swiss chard.....	108.27	19.18	-82.29	16,921.61	2,898.80	-82.87	156.30	151.14	-3.30
Root crops.....	1,538.69	4,419.64	187.23	236,163.55	996,331.80	321.88			
Beetroot.....	5.01	2.87	-42.71	681.04	496.54	-27.09	136.00	173.01	27.21
Carrot.....	115.99	82.87	-28.55	16,653.39	11,897.54	-28.56	143.57	143.57	0.00
Onion.....	1,160.02	3,500.39	201.75	173,189.38	790,933.47	356.69	149.30	225.96	51.35
Potatoes.....	200.14	652.07	225.81	36,203.19	140,648.42	288.50	180.89	215.70	19.24
Garlic.....	42.06	24.91	-40.78	4,958.54	2,896.82	-41.58	117.90	116.29	-1.37
Taro 'Godere'.....	-	0.71	-	-	59.39	-	-	83.65	-
Sweet potatoes.....	15.46	155.81	907.83	4,478.02	49,399.63	1,003.16	289.59	317.05	9.48
Other Temporary crops..	1,926.54	2,808.61	45.79	456,035.60	97,842.43	-78.55			
Permanent crops.....	84,745.65	149,681.26	76.62	16,931,479.02	34,585,732.29	104.27			
Fruit crops.....	5,732.22	5,266.91	-8.12	579,411.81	706,119.18	21.87			
Avocado.....	65.30	304.47	366.26	3,905.23	23,742.24	507.96	59.81	77.98	30.38
Bananas.....	791.67	1,608.92	103.23	66,670.48	144,401.47	116.59	84.21	89.75	6.58
Guava.....	120.05	60.04	-49.99	2,345.35	1,820.94	-22.36	19.54	30.33	55.27
Lemons.....	44.44	31.42	-29.30	1,991.20	1,416.86	-28.84	44.81	45.09	0.62
Mangoes.....	2,279.49	1,231.65	-45.97	177,118.23	106,232.16	-40.02	77.70	86.25	11.00
Oranges.....	2,179.13	1,411.36	-35.23	282,191.87	200,357.30	-29.00	129.50	141.96	9.62
Papayas.....	250.88	563.54	124.63	45,163.62	222,625.23	392.93	180.02	395.05	119.45
Pineapples.....	1.25	55.51	4,340.80	25.82	5,522.98	21,290.32	20.86	99.50	381.61
Cash crops.....	61,075.98	140,379.55	129.84	775,155.66	32,501,783.99	4,092.94			
Chat.....	15.63	25.21	61.29	326.71	528.43	61.74	20.90	20.96	0.29
Coffee.....	56,882.16	75,048.83	31.94	649,962.29	906,885.74	39.53	11.43	12.08	5.69
Tea.....	4,160.45	3,801.89	-8.62	124,813.40	308,952.86	147.53	30.00	81.26	170.87
Hops / 'Gesho'.....	17.75	*	-	53.25	*	-	3.00	*	-
Enset.....	-	35.64	-	-	990.00	-	-	27.78	-
Sugar cane.....	12,166.04	21,099.79	73.43	15,057,859.73	30,459,650.37	102.28	1,237.70	1,443.60	16.64
Cotton.....	34,910.78	40,366.71	15.63	771,909.38	824,702.44	6.84	22.11	20.43	-7.60
Other Permanent crops..	5,771.40	4,034.79	-30.09	519,051.82	1,377,829.12	165.45			

Table 2 Estimates of Cropland Area and Production of Crops For Commercial Farms, 2010/11(2003E.C.), Mber Season
Country

Crop Types	Cropland area in		Production in		Crop Productivity/ Yield
	Hectare	%	Quintals	%	
Total.....	616,462.69	100	46,410,552.95	100	
Grain crops.....	452,244.02	73.36	9,327,412.24	20.1	
Cereals.....	181,773.08	29.48	6,112,919.39	13.17	
Teff.....	8,784.26	1.42	127,210.27	0.27	14.48
Barley.....	1,607.04	0.26	39,774.45	0.09	24.75
Wheat.....	45,543.87	7.39	1,504,485.73	3.24	33.01
Maize.....	59,175.41	9.6	2,843,852.92	6.13	48.06
Sorghum.....	61,930.58	10.05	1,490,206.90	3.21	24.08
Finger millet.....	423.58	0.07	6,930.04	0.01	16.36
Oats / 'Aja'.....	3.99	-	63.84	-	16
Rice.....	4,304.36	0.7	100,395.24	0.22	23.32
Pulse.....	13,045.18	2.12	212,515.23	0.46	
Horse / Faba beans.....	620.78	0.1	10,868.10	0.02	17.51
Field Peas.....	37.3	0.01	884.3	-	23.71
Haricot beans.....	5,911.61	0.96	101,353.24	0.22	17.14
Chick peas.....	2,875.75	0.47	45,927.54	0.1	15.97
Lentils.....	51.26	0.01	595.47	-	11.62
Vetch / Grass peas.....	4.78	-	87.28	-	18.26
Soya beans.....	3,542.43	0.57	52,782.95	0.11	14.9
Fenugreek.....	1.26	-	16.34	-	12.97
Gibto.....	-	-	-	-	-
Oilseeds.....	257,425.76	41.76	3,001,977.62	6.47	
Niger seed/neug/.....	2,318.30	0.38	15,171.93	0.03	6.54
Linseed.....	45.51	0.01	813.97	-	17.89
Groundnuts.....	755.97	0.12	13,009.19	0.03	17.21
Safflower.....	71.07	0.01	1,278.62	-	17.99
Sesame.....	253,130.22	41.06	2,954,884.73	6.37	11.67
Rape seed.....	1,104.69	0.18	16,819.18	0.04	15.23
Vegetables.....	7,309.16	1.19	1,403,234.19	3.02	
Lettuce.....	225.92	0.04	54,526.43	0.12	241.35
Head cabbage.....	620.6	0.1	187,702.28	0.4	302.45
Ethiopian cabbage.....	40.39	0.01	4,578.79	0.01	113.36
Tomatoes.....	3,427.25	0.56	1,023,480.66	2.21	298.63
Green peppers.....	315.75	0.05	34,326.51	0.07	108.71
Red peppers.....	2,660.07	0.43	95,720.72	0.21	35.98
Swiss chard.....	19.18	-	2,898.80	0.01	151.14
Root crops.....	4,419.64	0.72	996,331.80	2.15	
Beetroot.....	2.87	-	496.54	-	173.01
Carrot.....	82.87	0.01	11,897.54	0.03	143.57
Onion.....	3,500.39	0.57	790,933.47	1.7	225.96
Potatoes.....	652.07	0.11	140,648.42	0.3	215.7
Garlic.....	24.91	-	2,896.82	0.01	116.29
Taro 'Godere'.....	*	-	*	-	*
Sweet potatoes.....	155.81	0.03	49,399.63	0.11	317.05
Other Temporary crops.....	2,808.61	0.46	97,842.43	0.21	
Permanent crops.....	149,681.26	24.28	34,585,732.29	74.52	
Fruit crops.....	5,266.91	0.85	706,119.18	1.52	
Avocado.....	304.47	0.05	23,742.24	0.05	77.98
Bananas.....	1,608.92	0.26	144,401.47	0.31	89.75
Guava.....	60.04	0.01	1,820.94	-	30.33
Lemons.....	31.42	0.01	1,416.86	-	45.09
Mangoes.....	1,231.65	0.2	106,232.16	0.23	86.25
Oranges.....	1,411.36	0.23	200,357.30	0.43	141.96
Papayas.....	563.54	0.09	222,625.23	0.48	395.05
Pineapples.....	55.51	0.01	5,522.98	0.01	89.5
Cash crops.....	140,379.56	22.77	32,501,783.99	70.09	
Chat.....	25.21	-	528.43	-	20.96
Coffee.....	75,048.83	12.17	906,885.74	1.95	12.08
Tea.....	3,801.89	0.62	308,952.86	0.67	81.26
Hops / 'Gesho'.....	*	-	*	-	*
Enset.....	35.64	0.01	990	-	27.78
Sugar cane.....	21,099.79	3.42	30,459,650.37	65.63	1,443.60
Cotton.....	40,366.71	6.55	824,702.44	1.78	20.43
Other Permanent crops.....	4,034.79	0.65	1,377,829.12	2.97	

Table 2.1 Estimates of Cropland Area and Production of Crops For Commercial Farm, 2010/11 (2003 E.C.), Meher Season
Tigray Region

Crop Types	Cropland area in		Production in		Crop Productivity/ Yield (QTS/Ha)
	Hectare	%	Quintals	%	
Total	138,943.79	100	2,186,618.15	100	
Grain crops	137,644.25	99.06	1,911,543.36	87.42	
Cereals	25,895.21	18.64	556,158.13	25.43	
Teff	995.55	0.72	16,925.28	0.77	17
Barley	28.7	0.02	803.49	0.04	28
Wheat	111.21	0.08	2,491.74	0.11	22.41
Maize	190.45	0.14	6,566.66	0.3	34.48
Sorghum	24,307.88	17.49	525,104.54	24.01	21.6
Finger millet	261.42	0.19	4,266.43	0.2	16.32
Oats / 'Aja'	-	-	-	-	-
Rice	-	-	-	-	-
Pulse	60.99	0.04	1,209.96	0.06	
Horse / Faba beans	9.57	0.01	148.3	0.01	15.5
Field Peas	-	-	-	-	-
Haricot beans	36.9	0.03	848.7	0.04	23
Chick peas	13.74	0.01	198.96	0.01	14.48
Lentils	-	-	-	-	-
Vetch / Grass peas	0.78	-	14	-	17.95
Soya beans	-	-	-	-	-
Fenugreek	-	-	-	-	-
Gibto	-	-	-	-	-
Oilseeds	111,688.05	80.38	1,354,175.27	61.93	
Niger seed/neug/	-	-	-	-	-
Linseed	-	-	-	-	-
Groundnuts	45.12	0.03	630.7	0.03	13.98
Safflower	-	-	-	-	-
Sesame	111,642.92	80.35	1,353,544.58	61.9	12.12
Rape seed	-	-	-	-	-
Vegetables	491.71	0.35	72,406.88	3.31	
Lettuce	-	-	-	-	-
Head cabbage	-	-	-	-	-
Ethiopian cabbage	19.73	0.01	2,210.04	0.1	112.01
Tomatoes	257.22	0.19	61,808.16	2.83	240.29
Green peppers	7.29	0.01	1,051.81	0.05	144.28
Red peppers	206.96	0.15	7,236.87	0.33	34.97
Swiss chard	0.52	-	100	-	192.31
Root crops	471.09	0.34	148,852.03	6.81	
Beetroot	-	-	-	-	-
Carrot	-	-	-	-	-
Onion	287.88	0.21	67,833.07	3.1	235.63
Potatoes	183.21	0.13	81,018.96	3.71	442.22
Garlic	-	-	-	-	-
Taro 'Godere'	-	-	-	-	-
Sweet potatoes	-	-	-	-	-
Other Temporary crops	138.36	0.1	11,184.90	0.51	
Permanent crops	198.38	0.14	42,630.98	1.95	
Fruit crops	196.9	0.14	42,556.83	1.95	
Avocado	-	-	-	-	-
Bananas	98.97	0.07	8,511.81	0.39	86
Guava	-	-	-	-	-
Lemons	-	-	-	-	-
Mangoes	32.65	0.02	6,756.00	0.31	206.92
Oranges	18.37	0.01	6,874.63	0.31	374.23
Papayas	46.9	0.03	20,414.40	0.93	435.28
Pineapples	-	-	-	-	-
Cash crops	1.48	-	74.15	-	
Chat	-	-	-	-	-
Coffee	-	-	-	-	-
Tea	-	-	-	-	-
Hops / 'Gesho'	-	-	-	-	-
Enset	-	-	-	-	-
Sugar cane	-	-	-	-	-
Cotton	-	-	-	-	-
Other Permanent crops	-	-	-	-	-

Table 2.2 Estimates of Cropland Area and Production of Grain Crops For Commercial Farms, 2010/11(2003E.C.), Mber Season
Afar Region

Crop Types	Cropland area in		Production in		Crop
	Hectare	%	Quintals	%	Productivity/ Yield
Total.....	30,549.64	100	677,528.27	100	
Grain crops.....	635.35	2.08	17,594.61	2.6	
Cereals.....	510	1.67	15,041.59	2.22	
Teff.....	-	-	-	-	-
Barley.....	-	-	-	-	-
Wheat.....	-	-	-	-	-
Maize.....	510	1.67	15,041.59	2.22	29.49
Sorghum.....	-	-	-	-	-
Finger millet.....	-	-	-	-	-
Oats / 'Aja'.....	-	-	-	-	-
Rice.....	-	-	-	-	-
Pulse.....	-	-	-	-	-
Horse / Faba beans.....	-	-	-	-	-
Field Peas.....	-	-	-	-	-
Haricot beans.....	-	-	-	-	-
Chick peas.....	-	-	-	-	-
Lentils.....	-	-	-	-	-
Vetch / Grass peas.....	-	-	-	-	-
Soya beans.....	-	-	-	-	-
Fenugreek.....	-	-	-	-	-
Gibfo.....	-	-	-	-	-
Oilseeds.....	125.35	0.41	2,553.02	0.38	
Niger seed/neug/.....	-	-	-	-	-
Linseed.....	-	-	-	-	-
Groundnuts.....	-	-	-	-	-
Safflower.....	16.41	0.05	656.4	0.1	40
Sesame.....	108.94	0.36	1,896.62	0.28	17.41
Rape seed.....	-	-	-	-	-
Vegetables.....	4.8	0.02	1,417.44	0.21	
Lettuce.....	-	-	-	-	-
Head cabbage.....	-	-	-	-	-
Ethiopian cabbage.....	-	-	-	-	-
Tomatoes.....	4.8	0.02	1,417.44	0.21	295.3
Green peppers.....	-	-	-	-	-
Red peppers.....	-	-	-	-	-
Swiss chard.....	-	-	-	-	-
Root crops.....	37.83	0.12	8,071.54	1.19	
Beetroot.....	-	-	-	-	-
Carrot.....	-	-	-	-	-
Onion.....	37.83	0.12	8,071.54	1.19	213.36
Potatoes.....	-	-	-	-	-
Garlic.....	-	-	-	-	-
Taro 'Godere'.....	-	-	-	-	-
Sweet potatoes.....	-	-	-	-	-
Other Temporary crops.....	-	-	-	-	-
Permanent crops.....	29,871.66	97.78	650,444.68	96	
Fruit crops.....	110.67	0.36	4,911.09	0.72	
Avocado.....	-	-	-	-	-
Bananas.....	-	-	-	-	-
Guava.....	-	-	-	-	-
Lemons.....	-	-	-	-	-
Mangoes.....	-	-	-	-	-
Oranges.....	110.67	0.36	4,911.09	0.72	44.38
Papayas.....	-	-	-	-	-
Pineapples.....	-	-	-	-	-
Cash crops.....	29,755.41	97.4	645,338.20	95.25	
Chat.....	-	-	-	-	-
Coffee.....	-	-	-	-	-
Tea.....	-	-	-	-	-
Hops / 'Gesho'.....	-	-	-	-	-
Enset.....	-	-	-	-	-
Sugar cane.....	-	-	-	-	-
Cotton.....	29,755.41	97.4	645,338.20	95.25	21.69
Other Permanent crops.....	5.58	0.02	195.39	0.03	

Table 2.3 Estimates of Cropland Area and Production of Grains Crops For Commercial Farm, 2010/11(2003E.C.), Mber Season
Amhara Region

Crop Types	Cropland area in		Production in		Crop Productivity/ Yield
	Hectare	%	Quintals	%	
Total	112,879.63	100	2,357,733.77	100	
Grain crops	109,066.94	96.62	1,908,284.26	80.94	
Cereals	32,229.87	28.55	942,462.17	39.97	
Teff	2,681.53	2.38	36,847.48	1.56	13.74
Barley	24.64	0.02	701.12	0.03	28.45
Wheat	1,718.04	1.52	33,072.33	1.4	19.25
Maize	8,582.43	7.6	435,177.21	18.46	50.71
Sorghum	19,022.50	16.85	431,102.41	18.28	22.66
Finger millet	59.93	0.05	945.73	0.04	15.78
Oats / 'Aja'	3.99	-	63.84	-	16
Rice	136.81	0.12	4,552.05	0.19	33.27
Pulse	1,190.91	1.06	18,264.22	0.77	
Horse / Faba beans	70.66	0.06	1,005.19	0.04	14.23
Field Peas	-	-	-	-	-
Haricot beans	188.91	0.17	3,300.35	0.14	17.47
Chick peas	395.13	0.35	6,452.57	0.27	16.33
Lentils	43.84	0.04	515.58	0.02	11.76
Vetch / Grass peas	-	-	-	-	-
Soya beans	492.37	0.44	6,990.53	0.3	14.2
Fenugreek	-	-	-	-	-
Gibfo	-	-	-	-	-
Oilseeds	75,646.16	67.01	947,557.87	40.19	
Niger seed/neug/	108.87	0.1	760.51	0.03	6.99
Linseed	-	-	-	-	-
Groundnuts	42.69	0.04	797.81	0.03	18.69
Safflower	38.18	0.03	414.29	0.02	10.85
Sesame	75,350.64	66.75	944,056.74	40.04	12.53
Rape seed	105.78	0.09	1,528.52	0.06	14.45
Vegetables	577.07	0.51	110,824.52	4.7	
Lettuce	32.14	0.03	2,225.35	0.09	69.24
Head cabbage	13.59	0.01	4,116.36	0.17	302.9
Ethiopian cabbage	-	-	-	-	-
Tomatoes	308.44	0.27	83,021.45	3.52	269.17
Green peppers	-	-	-	-	-
Red peppers	204.24	0.18	18,662.57	0.79	91.38
Swiss chard	18.66	0.02	2,798.80	0.12	149.99
Root crops	370.15	0.33	60,323.04	2.56	
Beetroot	1.82	-	157.38	0.01	86.47
Carrot	81.47	0.07	11,790.34	0.5	144.72
Onion	243.65	0.22	42,452.98	1.8	174.24
Potatoes	6.24	0.01	549.08	0.02	87.99
Garlic	8.51	0.01	976.77	0.04	114.78
Iaro 'Godere'	-	-	-	-	-
Sweet potatoes	28.46	0.03	4,396.50	0.19	154.48
Other Temporary crops	278.98	0.25	8,370.35	0.36	
Permanent crops	2,586.49	2.29	269,931.60	11.45	
Fruit crops	480.1	0.43	97,146.19	4.12	
Avocado	59.79	0.05	3,205.46	0.14	53.61
Bananas	65.78	0.06	3,161.67	0.13	48.06
Guava	0.35	-	14	-	40
Lemons	-	-	-	-	-
Mangoes	46.68	0.04	3,374.67	0.14	72.29
Oranges	111.57	0.1	15,785.16	0.67	141.48
Papayas	195.93	0.17	71,605.23	3.04	365.46
Pineapples	-	-	-	-	-
Cash crops	1,970.85	1.75	164,712.92	6.99	
Chat	-	-	-	-	-
Coffee	25.75	0.02	263.7	0.01	10.24
Tea	-	-	-	-	-
Hops / 'Gesho'	-	-	-	-	-
Enset	-	-	-	-	-
Sugar cane	167.78	0.15	153,108.76	6.49	912.56
Cotton	1,777.32	1.57	11,340.46	0.48	6.38
Other Permanent crops	195.54	0.12	8,072.49	0.34	

Table 2.4 Estimates of Cropland Area and Production of Grain Crops For Commercial Farms, 2010/11(2003E.C.), Major Season
Oromiya Region

Crop Types	Cropland area in		Production in		Crop Productivity/ Yield
	Hectare	%	Quintals	%	
Total	153,675.91	100.00	36,427,001.98	100.00	
Grain crops	89,017.26	57.93	3,505,518.68	9.62	
Cereals	75,029.11	48.82	3,310,650.85	9.09	
Teff.....	2,455.06	1.60	40,101.37	0.11	16.32
Barley.....	1,158.99	0.75	26,992.87	0.07	23.29
Wheat.....	36,543.13	23.78	1,287,402.00	3.53	35.23
Maize.....	27,303.61	17.77	1,697,405.82	4.66	62.17
Sorghum.....	7,398.25	4.81	255,061.38	0.70	34.48
Finger millet.....	90.40	0.06	1,546.96	0.00	17.11
Oats / 'Aja'.....	-	-	-	-	-
Rice.....	79.68	0.05	2,140.45	0.01	26.86
Pulse	4,774.53	3.11	88,904.01	0.24	
Horse / Faba beans.....	489.62	0.32	7,950.80	0.02	16.30
Field Peas.....	31.23	0.02	721.94	0.00	23.12
Haricot beans.....	2,564.87	1.67	46,749.62	0.13	18.23
Chick peas.....	536.77	0.35	15,238.73	0.04	28.19
Lentils.....	4.95	0.00	62.13	0.00	12.55
Vetch / Grass peas.....	4.00	0.00	73.28	0.00	18.59
Soya beans.....	1,141.82	0.74	18,061.17	0.05	15.82
Fenugreek.....	1.26	0.00	16.34	0.00	12.97
Gibfo.....	-	-	-	-	-
Oilseeds	9,213.62	6.00	105,963.82	0.29	
Niger seed/neugl.....	616.39	0.40	4,616.36	0.01	7.49
Linseed.....	4.00	0.00	349.37	0.00	87.34
Groundnuts.....	217.02	0.14	3,810.97	0.01	17.56
Safflower.....	-	-	-	-	-
Sesame.....	7,377.30	4.80	81,896.46	0.22	11.10
Rape seed.....	998.91	0.65	15,290.66	0.04	15.31
Vegetables	3,846.83	2.50	954,302.98	2.62	
Lettuce.....	193.78	0.13	52,301.09	0.14	269.90
Head cabbage.....	508.07	0.33	163,140.31	0.45	321.10
Ethiopian cabbage.....	2.74	0.00	306.44	0.00	111.84
Tomatoes.....	2,078.67	1.35	708,203.69	1.94	340.70
Green peppers.....	82.34	0.05	9,132.38	0.03	110.91
Red peppers.....	981.24	0.64	21,219.07	0.06	21.62
Swiss chard.....	-	-	-	-	-
Root crops	2,253.85	1.47	586,597.27	1.61	
Beetroot.....	0.31	0.00	42.16	0.00	136.00
Carrot.....	-	-	-	-	-
Onion.....	2,193.81	1.43	572,723.43	1.57	261.06
Potatoes.....	58.60	0.04	13,748.13	0.04	234.61
Garlic.....	-	-	-	-	-
Taro 'Godere'.....	-	-	-	-	-
Sweet potatoes.....	1.13	0.00	83.55	0.00	73.94
Other Temporary crops	729.10	0.47	63,849.72	0.18	
Permanent crops	57,828.88	37.63	31,316,733.33	85.97	
Fruit crops	2,628.18	1.71	376,062.89	1.03	
Avocado.....	3.90	0.00	266.65	0.00	70.17
Bananas.....	96.89	0.06	7,561.29	0.02	78.04
Guava.....	56.43	0.04	1,657.00	0.00	29.36
Lemons.....	28.75	0.02	1,266.07	0.00	44.04
Mangoes.....	1,104.22	0.72	88,985.18	0.24	80.59
Oranges.....	1,085.03	0.71	158,780.97	0.44	146.34
Papayas.....	252.57	0.16	117,522.76	0.32	465.31
Pineapples.....	0.51	0.00	22.98	0.00	45.06
Cash crops	53,055.88	34.52	30,683,834.35	84.23	
Chat.....	25.21	0.02	578.43	0.00	20.96
Coffee.....	31,164.91	20.28	346,496.50	0.95	11.12
Tea.....	1,042.86	0.68	135,998.07	0.37	130.41
Hops / 'Gesho'.....	-	-	-	-	-
Enset.....	-	-	-	-	-
Sugar cane.....	20,822.89	13.55	30,200,811.35	82.91	1,450.17
Cotton.....	-	-	-	-	-
Other Permanent crops	2,144.82	1.40	256,836.09	0.71	

Table 2.5 Estimates of Cropland Area and Production of Grain Crops For Commercial Farms, 2010/11(2003E.C.), Mber Season
Small Region

Crop Types	Cropland area in		Production in		Crop Productivity/ Yield
	Hectare	%	Quintals	%	
Total.....	747.74	100	47,173.40	100	
Grain crops.....	514.98	68.87	13,765.82	29.18	
Cereals.....	446.1	59.66	12,881.07	27.31	
Teff.....	-	-	-	-	-
Barley.....	-	-	-	-	-
Wheat.....	50.08	6.7	1,087.12	2.3	21.71
Maize.....	296.13	39.6	8,333.16	17.66	28.14
Sorghum.....	98.77	13.21	3,454.06	7.32	34.97
Finger millet.....	-	-	-	-	-
Oats / 'Aja'.....	-	-	-	-	-
Rice.....	1.12	0.15	6.73	0.01	6.01
Pulse.....	57.1	7.64	751.12	1.59	
Horse / Faba beans.....	-	-	-	-	-
Field Peas.....	-	-	-	-	-
Haricot beans.....	57.1	7.64	751.12	1.59	13.15
Chick peas.....	-	-	-	-	-
Lentils.....	-	-	-	-	-
Vetch / Grass peas.....	-	-	-	-	-
Soya beans.....	-	-	-	-	-
Fenugreek.....	-	-	-	-	-
Gibfo.....	-	-	-	-	-
Oilseeds.....	11.78	1.58	133.63	0.28	
Niger seed/moug/.....	-	-	-	-	-
Linseed.....	-	-	-	-	-
Groundnuts.....	-	-	-	-	-
Safflower.....	-	-	-	-	-
Sesame.....	11.78	1.58	133.63	0.28	11.34
Rape seed.....	-	-	-	-	-
Vegetables.....	15.19	2.03	2,334.63	4.95	
Lettuce.....	-	-	-	-	-
Head cabbage.....	0.7	0.09	60	0.13	85.71
Ethiopian cabbage.....	-	-	-	-	-
Tomatoes.....	13.47	1.8	2,242.48	4.75	166.48
Green peppers.....	0.95	0.13	23.65	0.05	24.89
Red peppers.....	0.07	0.01	8.5	0.02	121.43
Swiss chard.....	-	-	-	-	-
Root crops.....	45.17	6.04	5,675.93	12.03	
Beetroot.....	-	-	-	-	-
Carrot.....	-	-	-	-	-
Onion.....	36.41	4.87	5,375.93	11.4	147.65
Potatoes.....	8.76	1.17	300	0.64	34.25
Garlic.....	-	-	-	-	-
Taro 'Godere'.....	-	-	-	-	-
Sweet potatoes.....	-	-	-	-	-
Other Temporary crops.....	6.9	0.92	135.64	0.29	
Permanent crops.....	165.5	22.13	25,261.38	53.55	
Fruit crops.....	149.57	20	23,974.36	50.82	
Avocado.....	-	-	-	-	-
Bananas.....	56.19	7.51	4,832.62	10.24	86
Guava.....	1.56	0.21	90	0.19	57.69
Lemons.....	2.67	0.36	150.79	0.32	56.48
Mangoes.....	12.26	1.64	3,075.90	6.52	250.89
Oranges.....	48.21	6.45	9,588.99	20.33	198.9
Papayas.....	28.68	3.84	6,236.06	13.22	217.44
Pineapples.....	-	-	-	-	-
Cash crops.....	0.38	0.05	20	0.04	
Chat.....	-	-	-	-	-
Coffee.....	0.38	0.05	20	0.04	52.63
Tea.....	-	-	-	-	-
Hops / 'Gesho'.....	-	-	-	-	-
Enset.....	-	-	-	-	-
Sugar cane.....	-	-	-	-	-
Cotton.....	-	-	-	-	-
Other Permanent crops.....	15.55	2.08	1,267.02	2.69	

Table 2.6 Estimates of Cropland Area and Production of Grain Crops For Commercial Farms, 2010/11(2003E.C.), Mber Season
Benishangul-Gumuz Region

Crop Types	Cropland area in		Production in		Crop
	Hectare	%	Quintals	%	Productivity/ Yield
Total.....	77,013.09	100	1,148,928.39	100	
Grain crops.....	75,613.19	98.18	1,098,451.17	95.52	
Cereals.....	17,825.68	23.15	522,384.85	45.43	
Teff.....	-	-	-	-	-
Barley.....	-	-	-	-	-
Wheat.....	59.48	0.08	659.74	0.06	11.09
Maize.....	5,834.34	7.58	227,667.11	19.8	39.03
Sorghum.....	8,837.37	11.48	224,239.62	19.5	25.37
Finger millet.....	11.82	0.02	170.92	0.01	14.46
Oats / 'Aja'.....	-	-	-	-	-
Rice.....	3,082.67	4	69,627.46	6.05	22.59
Pulse.....	2,348.30	3.05	33,334.66	2.9	
Horse / Faba beans.....	-	-	-	-	-
Field Peas.....	-	-	-	-	-
Haricot beans.....	345.68	0.45	6,426.49	0.56	18.59
Chick peas.....	302.41	0.39	1,524.17	0.13	5.04
Lentils.....	-	-	-	-	-
Vetch / Grass peas.....	-	-	-	-	-
Soya beans.....	1,700.21	2.21	25,384.20	2.21	14.93
Fenugreek.....	-	-	-	-	-
Gibfo.....	-	-	-	-	-
Oilseeds.....	55,439.21	71.99	542,731.46	47.2	
Niger seed/neug/.....	1,369.83	1.78	8,399.83	0.73	6.13
Linseed.....	-	-	-	-	-
Groundnuts.....	172.98	0.22	3,041.10	0.26	17.58
Safflower.....	16.48	0.02	207.93	0.02	12.62
Sesame.....	53,879.93	69.96	531,082.60	46.18	9.86
Rape seed.....	-	-	-	-	-
Vegetables.....	256.84	0.33	8,043.62	0.7	
Lettuce.....	-	-	-	-	-
Head cabbage.....	-	-	-	-	-
Ethiopian cabbage.....	-	-	-	-	-
Tomatoes.....	9.84	0.01	1,784.45	0.16	181.35
Green peppers.....	-	-	-	-	-
Red peppers.....	247	0.32	6,259.17	0.54	25.34
Swiss chard.....	-	-	-	-	-
Root crops.....	252.18	0.33	38,842.62	3.38	
Beetroot.....	-	-	-	-	-
Carrot.....	-	-	-	-	-
Onion.....	252.18	0.33	38,842.62	3.38	154.03
Potatoes.....	-	-	-	-	-
Garlic.....	-	-	-	-	-
Taro 'Godere'.....	-	-	-	-	-
Sweet potatoes.....	-	-	-	-	-
Other Temporary crops.....	837.12	1.09	2,617.28	0.23	
Permanent crops.....	53.76	0.07	1,973.60	0.17	
Fruit crops.....	35.88	0.05	1,860.10	0.16	
Avocado.....	4.06	0.01	50.34	-	12.4
Bananas.....	-	-	-	-	-
Guava.....	-	-	-	-	-
Lemons.....	-	-	-	-	-
Mangoes.....	2.22	-	211.66	0.02	95.34
Oranges.....	29.6	0.04	1,598.10	0.14	53.99
Papayas.....	-	-	-	-	-
Pineapples.....	-	-	-	-	-
Cash crops.....	17.88	0.02	113.5	0.01	
Chat.....	-	-	-	-	-
Coffee.....	-	-	-	-	-
Tea.....	-	-	-	-	-
Hops / 'Gesho'.....	-	-	-	-	-
Enset.....	-	-	-	-	-
Sugar cane.....	-	-	-	-	-
Cotton.....	17.88	0.02	113.5	0.01	6.35
Other Permanent crops.....	-	-	-	-	-

Table 2.7 Estimates of Cropland Area and Production of Grain Crops For Commercial Farms, 2010/11(2003E.C.), Mber Season
S.N.N.P.R

Crop Types	Cropland area in		Production in		Crop Productivity/ Yield
	Hectare	%	Quintals	%	
Total	94,823.68	100	3,482,692.78	100	
Grain crops	37,456.90	39.5	850,479.22	24.42	
Cereals	29,315.61	30.92	739,752.40	21.24	
Teff	2,652.12	2.8	33,336.15	0.96	12.57
Barley	394.72	0.42	11,276.97	0.32	28.57
Wheat	7,061.93	7.45	179,772.81	5.15	25.46
Maize	16,380.16	17.27	451,136.55	12.95	27.54
Sorghum	2,153.49	2.27	48,436.89	1.39	22.49
Finger millet	-	-	-	-	-
Oats / 'Aja'	-	-	-	-	-
Rice	673.19	0.71	15,793.04	0.45	23.46
Pulse	4,457.28	4.7	68,225.75	1.96	
Horse / Faba beans	50.93	0.05	1,733.81	0.05	34.04
Field Peas	6.07	0.01	162.36	-	26.75
Haricot beans	2,718.15	2.87	43,276.96	1.24	15.92
Chick peas	1,627.69	1.72	22,513.11	0.65	13.83
Lentils	2.46	-	17.76	-	7.22
Vetch / Grass peas	-	-	-	-	-
Soya beans	51.98	0.05	521.75	0.01	10.04
Fenugreek	-	-	-	-	-
Gibfo	-	-	-	-	-
Oilseeds	3,684.01	3.89	42,501.07	1.22	
Niger seed/neug'	223.22	0.24	1,395.23	0.04	6.25
Linseed	41.51	0.04	464.6	0.01	11.19
Groundnuts	21.8	0.02	370.62	0.01	17
Safflower	-	-	-	-	-
Sesame	3,397.48	3.58	40,270.62	1.16	11.85
Rape seed	-	-	-	-	-
Vegetables	2,116.59	2.23	253,874.11	7.29	
Lettuce	-	-	-	-	-
Head cabbage	98.24	0.1	20,385.61	0.59	207.51
Ethiopian cabbage	17.92	0.02	2,062.31	0.06	115.08
Tomatoes	754.68	0.8	164,972.98	4.74	218.6
Green peppers	225.18	0.24	24,118.67	0.69	107.11
Red peppers	1,020.57	1.08	42,334.54	1.22	41.48
Swiss chard	-	-	-	-	-
Root crops	988.28	1.04	147,952.95	4.25	
Beetroot	0.74	-	297	0.01	401.35
Carrot	1.4	-	107.2	-	76.57
Onion	447.54	0.47	55,617.48	1.6	124.27
Potatoes	395.26	0.42	45,032.25	1.29	113.93
Garlic	16.4	0.02	1,920.05	0.06	117.08
Taro 'Godere'	-	-	-	-	-
Sweet potatoes	126.22	0.13	44,919.58	1.29	355.88
Other Temporary crops	808.25	0.85	11,291.44	0.32	
Permanent crops	53,453.66	56.37	2,219,095.06	63.72	
Fruit crops	1,648.38	1.74	156,549.42	4.5	
Avocado	235.58	0.25	20,030.39	0.58	85.03
Bananas	1,291.09	1.36	120,334.08	3.46	93.2
Guava	1.71	-	59.94	-	35.05
Lemons	-	-	-	-	-
Mangoes	33.63	0.04	3,828.75	0.11	113.85
Oranges	1.78	-	265.35	0.01	149.07
Papayas	29.59	0.03	6,530.90	0.19	220.71
Pineapples	55	0.06	5,500.00	0.16	100
Cash crops	50,078.06	52.81	951,092.51	27.31	
Chat	-	-	-	-	-
Coffee	42,801.90	45.14	557,588.96	16.01	13.03
Tea	2,759.03	2.91	172,954.79	4.97	62.69
Hops / 'Gesho'	-	-	-	-	-
Enset	35.64	0.04	990	0.03	27.78
Sugar cane	109.12	0.12	105,730.26	3.04	968.94
Cotton	4,372.37	4.61	113,828.50	3.27	26.03
Other Permanent crops	1,727.22	1.82	1,111,453.13	31.91	

Table 2.8 Estimates of Cropland Area and Production of Grain Crops For Commercial Farms, 2010/11(2003E.C.), Meher Season
Gambella Region

Crop Types	Cropland area in		Production in		Crop Productivity/ Yield
	Hectare	%	Quintals	%	
Total.....	7,811.95	100	78,960.97	100	
Grain crops.....	2,295.12	29.38	21,775.11	27.58	
Cereals.....	521.48	6.68	13,588.33	17.21	
Teff.....	-	-	-	-	-
Barley.....	-	-	-	-	-
Wheat.....	-	-	-	-	-
Maize.....	78.28	1	2,504.83	3.17	32
Sorghum.....	112.32	1.44	2,806.00	3.56	25
Finger millet.....	-	-	-	-	-
Oats / 'Aja'.....	-	-	-	-	-
Rice.....	330.89	4.24	8,275.51	10.48	25.01
Pulse.....	156.06	2	1,825.30	2.31	
Horse / Faba beans.....	-	-	-	-	-
Field Peas.....	-	-	-	-	-
Haricot beans.....	-	-	-	-	-
Chick peas.....	-	-	-	-	-
Lentils.....	-	-	-	-	-
Vetch / Grass peas.....	-	-	-	-	-
Soya beans.....	156.06	2	1,825.30	2.31	11.7
Fenugreek.....	-	-	-	-	-
Gibfo.....	-	-	-	-	-
Oilseeds.....	1,617.58	20.71	6,361.48	8.06	
Niger seed/neug'.....	-	-	-	-	-
Linseed.....	-	-	-	-	-
Groundnuts.....	256.35	3.28	4,358.00	5.52	17
Safflower.....	-	-	-	-	-
Sesame.....	1,361.22	17.42	2,003.48	2.54	1.47
Rape seed.....	-	-	-	-	-
Vegetables.....	-	-	-	-	-
Lettuce.....	-	-	-	-	-
Head cabbage.....	-	-	-	-	-
Ethiopian cabbage.....	-	-	-	-	-
Tomatoes.....	-	-	-	-	-
Green peppers.....	-	-	-	-	-
Red peppers.....	-	-	-	-	-
Swiss chard.....	-	-	-	-	-
Root crops.....	-	-	-	-	-
Beetroot.....	-	-	-	-	-
Carrot.....	-	-	-	-	-
Onion.....	-	-	-	-	-
Potatoes.....	-	-	-	-	-
Garlic.....	-	-	-	-	-
Taro 'Godere'.....	-	-	-	-	-
Sweet potatoes.....	-	-	-	-	-
Other Temporary crops.....	9.89	0.13	393.1	0.5	
Permanent crops.....	5,506.94	70.49	56,792.76	71.93	
Fruit crops.....	1.23	0.02	189.4	0.24	
Avocado.....	1.23	0.02	189.4	0.24	153.98
Bananas.....	-	-	-	-	-
Guava.....	-	-	-	-	-
Lemons.....	-	-	-	-	-
Mangoes.....	-	-	-	-	-
Oranges.....	-	-	-	-	-
Papayas.....	-	-	-	-	-
Pineapples.....	-	-	-	-	-
Cash crops.....	5,499.63	70.4	56,598.36	71.68	
Chat.....	-	-	-	-	-
Coffee.....	1,055.90	13.52	2,516.58	3.19	2.38
Tea.....	-	-	-	-	-
Hops / 'Gesho'.....	-	-	-	-	-
Enset.....	-	-	-	-	-
Sugar cane.....	-	-	-	-	-
Cotton.....	4,443.74	56.88	54,081.79	68.49	12.17
Other Permanent crops.....	6.08	0.08	5	0.01	

Table 2.9 Estimates of Cropland Area and Production of Grain Crops For Commercial Farms, 2010/11(2003E.C.), Meher Season
Harari Region

Crop Types	Cropland area in		Production in		Crop Productivity/ Yield
	Hectare	%	Quintals	%	
Total.....	1.24	100	46.43	100	
Grain crops.....					
Cereals.....					
Teff.....					
Barley.....					
Wheat.....					
Maize.....					
Sorghum.....					
Finger millet.....					
Oats / 'Aja'.....					
Rice.....					
Pulse.....					
Horse / Faba beans.....					
Field Peas.....					
Haricot beans.....					
Chick peas.....					
Lentils.....					
Vetch / Grass peas.....					
Soya beans.....					
Fenugreek.....					
Gibfo.....					
Oilseeds.....					
Niger seed/neug/.....					
Linseed.....					
Groundnuts.....					
Safflower.....					
Sesame.....					
Rape seed.....					
Vegetables.....	0.14	11.29	30	64.61	
Lettuce.....					
Head cabbage.....					
Ethiopian cabbage.....					
Tomatoes.....	0.14	11.29	30	64.61	214.29
Green peppers.....					
Red peppers.....					
Swiss chard.....					
Root crops.....	1.1	88.71	16.43	35.39	
Beetroot.....					
Carrot.....					
Onion.....	1.1	88.71	16.43	35.39	14.94
Potatoes.....					
Garlic.....					
Taro 'Godere'.....					
Sweet potatoes.....					
Other Temporary crops.....					
Permanent crops.....					
Fruit crops.....					
Avocado.....					
Bananas.....					
Guava.....					
Lemons.....					
Mangoes.....					
Oranges.....					
Papayas.....					
Pineapples.....					
Cash crops.....					
Chat.....					
Coffee.....					
Tea.....					
Hops / 'Gesho'.....					
Enset.....					
Sugar cane.....					
Cotton.....					
Other Permanent crops.....					

Table 2.10 Estimates of Cropland Area and Production of Grain Crops For Commercial Commercial Farms, 2010/11(2003E.C.), Mber Season
DIRE DAWA CITY ADMINISTRATION

Crop Types	Cropland area in		Production in		Crop Productivity/ Yield
	Hectare	%	Quintals	%	
Total.....	16	100	2,868.89	100	
Grain crops.....	-	-	-	-	
Cereals.....	-	-	-	-	
Teff.....	-	-	-	-	
Barley.....	-	-	-	-	
Wheat.....	-	-	-	-	
Maize.....	-	-	-	-	
Sorghum.....	-	-	-	-	
Finger millet.....	-	-	-	-	
Oats / 'Aja'.....	-	-	-	-	
Rice.....	-	-	-	-	
Pulse.....	-	-	-	-	
Horse / Faba beans.....	-	-	-	-	
Field Peas.....	-	-	-	-	
Haricot beans.....	-	-	-	-	
Chick peas.....	-	-	-	-	
Lentils.....	-	-	-	-	
Vetch / Grass peas.....	-	-	-	-	
Soya beans.....	-	-	-	-	
Fenugreek.....	-	-	-	-	
Gibto.....	-	-	-	-	
Oilseeds.....	-	-	-	-	
Niger seed/neugl.....	-	-	-	-	
Linseed.....	-	-	-	-	
Groundnuts.....	-	-	-	-	
Safflower.....	-	-	-	-	
Sesame.....	-	-	-	-	
Rape seed.....	-	-	-	-	
Vegetables.....	-	-	-	-	
Lettuce.....	-	-	-	-	
Head cabbage.....	-	-	-	-	
Ethiopian cabbage.....	-	-	-	-	
Tomatoes.....	-	-	-	-	
Green peppers.....	-	-	-	-	
Red peppers.....	-	-	-	-	
Swiss chard.....	-	-	-	-	
Root crops.....	-	-	-	-	
Beetroot.....	-	-	-	-	
Carrot.....	-	-	-	-	
Onion.....	-	-	-	-	
Potatoes.....	-	-	-	-	
Garlic.....	-	-	-	-	
Taro 'Godere'.....	-	-	-	-	
Sweet potatoes.....	-	-	-	-	
Other Temporary crops.....	-	-	-	-	
Permanent crops.....	16	100	2,868.89	100	
Fruit crops.....	16	100	2,868.89	100	
Avocado.....	-	-	-	-	
Bananas.....	-	-	-	-	
Guava.....	-	-	-	-	
Lemons.....	-	-	-	-	
Mangoes.....	-	-	-	-	
Oranges.....	6.13	38.31	2,553.00	88.99	416.48
Papayas.....	9.87	61.69	315.89	11.01	32.01
Pineapples.....	-	-	-	-	
Cash crops.....	-	-	-	-	
Chat.....	-	-	-	-	
Coffee.....	-	-	-	-	
Tea.....	-	-	-	-	
Hops / 'Gesho'.....	-	-	-	-	
Enset.....	-	-	-	-	
Sugar cane.....	-	-	-	-	
Cotton.....	-	-	-	-	
Other Permanent crops.....	-	-	-	-	

Table 3. Estimates of Farm Input Applied Cropland Area and Quantity of input used by Crop and Input type: For Commercial Farms 2010/11 (2003 E.C.), Mekele (Main) Season

Country	Crop Type	Chemical Fertilizer Applied							
		UREA		DAP		Improved Seed		Indigenous Seed	
		Area in Hec	Amnt in Qts	Area in Hec	Amnt in Qts	Area in Hec	Amnt in Qts	Area in Hec	Amnt in Qts
	Total	134,173.39	149,956.16	136,502.64	244,518.31	112,660.33	138,040.95	381,605.50	86,811.97
	Grain crops	100,054.59	81,596.05	117,874.32	221,713.10	96,196.33	121,148.92	347,947.22	77,323.26
	Cereals	92,316.52	76,848.05	106,869.88	136,173.51	86,768.28	116,557.45	94,488.03	36,570.07
	Teff	4,685.50	3,093.88	6,473.09	4,868.34	3,532.06	1,131.57	5,339.51	1,589.17
	Barley	124.31	80.51	1,367.47	1,342.38	1,199.03	1,279.44	470.42	455.85
	Wheat	34,383.23	21,845.51	43,498.55	57,372.84	32,933.58	88,928.46	10,961.72	22,922.55
	Maize	50,773.08	50,179.01	51,478.15	72,928.01	45,655.17	23,122.98	11,139.89	2,962.10
	Sorghum	1,712.68	748.64	2,235.69	921.47	678.09	104.32	-	6,678.88
	Finger millet	-	-	-	-	16.65	3.80	158.78	53.08
	Oats / 'Aja'	-	-	-	-	-	-	-	-
	Rice	637.72	900.50	1,816.92	740.49	2,753.70	1,986.88	2,874.50	1,708.63
	Pulse	2,779.55	3,412.19	4,937.37	80,269.43	4,970.71	4,228.26	7,908.14	7,352.53
	Horse / Faba beans	-	-	-	700.40	486.10	972.54	220.82	185.46
	Field Peas	4.28	4.28	5.28	8.81	4.28	2.14	1.00	0.25
	Haricot beans	2,045.49	3,011.32	3,326.29	78,941.66	2,792.97	2,060.01	3,286.45	3,671.05
	Chick peas	12.44	11.25	118.90	56.68	483.09	559.83	1,915.69	1,245.04
	Lentils	-	-	6.68	8.75	-	-	43.63	21.01
	Vetch / Grass peas	-	-	-	-	-	-	5.43	3.80
	Soya beans	717.34	385.34	855.89	553.14	1,202.27	633.75	2,433.22	2,225.86
	Fenugreek	-	-	-	-	-	-	2.00	0.27
	Gibto	-	-	-	-	-	-	-	-
	Oilseeds	4,958.52	1,335.81	6,067.07	3,270.16	4,457.34	363.21	245,551.05	33,400.88
	Niger seed/neug/	-	-	-	-	-	-	1,882.32	446.64
	Linseed	-	-	-	-	-	-	46.29	54.56
	Groundnuts	-	-	-	-	-	-	391.29	187.97
	Safflower	-	-	-	-	16.48	2.00	36.00	4.00
	Sesame	4,753.98	1,260.51	4,961.34	1,486.96	3,795.13	203.10	242,735.16	32,624.59
	Rape seed	204.54	75.30	-	1,783.20	645.73	158.11	480.00	82.93
	Vegetables	5,046.82	6,415.60	5,161.73	7,269.83	3,780.32	1,458.04	1,612.95	169.83
	Lettuce	120.20	96.40	129.20	98.40	120.20	0.09	32.14	0.06
	Head cabbage	600.16	768.73	598.88	838.35	511.53	5.18	101.01	1.04
	Ethiopian cabbage	32.86	65.71	32.86	72.26	6.55	0.10	3.04	0.04
	Tomatoes	2,757.34	3,809.03	2,888.36	4,540.70	2,439.62	1,410.81	270.69	0.56
	Green peppers	289.42	291.17	290.24	333.11	41.54	4.08	53.93	0.42
	Red peppers	1,246.33	1,382.17	1,230.79	1,366.62	660.88	37.78	1,152.14	167.51
	Swiss chard	0.50	0.40	0.50	0.40	-	-	-	-
	Root crops	3,028.46	8,387.87	3,146.97	7,385.41	3,020.23	8,671.15	426.07	2,623.51
	Beetroot	1.04	1.34	1.04	1.31	0.74	0.06	1.82	0.06
	Carrot	1.40	0.10	1.40	0.20	4.41	107.51	-	-
	Onion	2,537.15	6,340.86	2,369.06	4,811.74	2,623.70	4,664.88	283.61	92.36
	Potatoes	460.16	579.88	620.98	986.24	272.81	3,414.70	57.33	2,368.29
	Garlic	0.25	0.20	7.47	1.86	-	-	14.85	42.81
	Taro 'Godere'	-	-	-	-	-	-	-	-
	Sweet potatoes	28.46	1,465.50	147.02	1,584.06	118.56	684.00	28.46	-
	Other Temporary crops	849.93	983.08	1,112.64	1,202.74	867.46	2,500.16	1,123.70	313.67
	Permanent crops	25,193.59	52,573.56	9,206.98	6,947.23	8,795.98	4,062.68	30,495.56	6,481.88
	Fruit crops	1,563.46	4,937.39	1,538.07	1,503.40	32.70	-	-	-
	Avocado	-	-	-	-	-	-	-	-
	Bananas	8.79	15.00	8.79	11.00	-	-	-	-
	Guava	-	-	-	-	-	-	-	-
	Lemons	19.22	36.70	-	-	-	-	-	-
	Mangoes	223.21	58.18	223.21	41.72	32.70	-	-	-
	Oranges	1,086.64	3,771.71	1,093.44	974.52	-	-	-	-
	Papayas	225.61	1,055.81	212.63	476.16	-	-	-	-
	Pineapples	-	-	-	-	-	-	-	-
	Cash crops	21,369.16	43,762.25	6,885.73	4,052.81	8,073.00	4,043.45	30,495.56	6,481.88
	Chal	-	-	-	-	-	-	1.50	-
	Coffee	12,000.08	7,167.79	6,695.73	4,050.91	2.00	-	-	-
	Tea	689.98	3,621.35	-	-	-	-	-	-
	Hops / 'Gesho'	-	-	-	-	-	-	-	-
	Enset	-	-	-	-	-	-	-	-
	Sugar cane	7,751.10	32,792.11	190.00	1.80	190.00	53.20	-	-
	Cotton	928.00	181.00	-	-	7,881.00	3,990.25	30,494.00	6,481.88
	Other Permanent crops	2,260.97	3,873.92	783.18	1,391.02	690.29	19.23	-	-

Table 3.1 Estimates of Farm Input Applied Cropland Area and Quantity of Input used by Crop and Input type: For Commercial Farms 2010/11 (2003 E.C.), Meher (Main) Season

Tigray Region	Crop Type	Chemical Fertilizer Applied				Improved Seed		Indigenous Seed	
		UREA		DAP		Area in Hec	Amnt in Qts	Area in Hec	Amnt in Qts
		Area in Hec	Amnt in Qts	Area in Hec	Amnt in Qts				
	Total	4,717.77	2,924.21	5,220.45	3,299.60	1,542.85	77.98	127,670.86	7,612.50
	Grain crops	3,693.46	1,624.42	4,195.14	1,995.00	1,506.85	65.98	127,670.86	7,612.50
	Cereals	2,307.35	1,419.65	3,109.92	1,833.35	209.50	22.20	23,592.65	1,526.36
	Teff	853.35	718.26	872.47	735.18	46.60	14.00	-	-
	Barley	14.83	13.50	14.83	13.50	-	-	-	-
	Wheat	71.64	143.28	-	191.08	-	-	-	-
	Maize	19.28	16.50	19.28	16.50	-	-	-	-
	Sorghum	1,348.25	528.11	2,063.89	877.11	162.90	8.20	23,592.65	1,526.36
	Finger millet	-	-	-	-	-	-	-	-
	Oats / 'Aja'	-	-	-	-	-	-	-	-
	Rice	-	-	-	-	-	-	-	-
	Pulse	12.44	11.25	12.44	11.25	-	-	-	-
	Horse / Faba beans	-	-	-	-	-	-	-	-
	Field Peas	-	-	-	-	-	-	-	-
	Haricot beans	-	-	-	-	-	-	-	-
	Chick peas	12.44	11.25	12.44	11.25	-	-	-	-
	Lentils	-	-	-	-	-	-	-	-
	Vetch / Grass peas	-	-	-	-	-	-	-	-
	Soya beans	-	-	-	-	-	-	-	-
	Fenugreek	-	-	-	-	-	-	-	-
	Gibfo	-	-	-	-	-	-	-	-
	Oilseeds	1,373.67	193.52	1,073.78	150.40	1,297.35	43.78	104,078.21	6,086.14
	Niger seed/neugl	-	-	-	-	-	-	-	-
	Linseed	-	-	-	-	-	-	-	-
	Groundnuts	-	-	-	-	-	-	-	-
	Safflower	-	-	-	-	-	-	-	-
	Sesame	1,373.67	193.52	1,073.78	150.40	1,297.35	43.78	104,078.21	6,086.14
	Rape seed	-	-	-	-	-	-	-	-
	Vegetables	485.64	480.71	485.64	485.52	-	-	-	-
	Lettuce	-	-	-	-	-	-	-	-
	Head cabbage	-	-	-	-	-	-	-	-
	Ethiopian cabbage	-	52.62	-	52.62	-	-	-	-
	Tomatoes	140.56	215.62	140.56	215.62	-	-	-	-
	Green peppers	7.29	7.50	7.29	7.50	-	-	-	-
	Red peppers	-	204.57	-	209.38	-	-	-	-
	Swiss chard	0.50	0.40	0.50	0.40	-	-	-	-
	Root crops	409.64	713.60	409.64	713.60	-	-	-	-
	Beetroot	-	-	-	-	-	-	-	-
	Carrot	-	-	-	-	-	-	-	-
	Onion	218.06	333.26	218.06	333.26	-	-	-	-
	Potatoes	-	380.34	-	380.34	-	-	-	-
	Garlic	-	-	-	-	-	-	-	-
	Taro 'Godere'	-	-	-	-	-	-	-	-
	Sweet potatoes	-	-	-	-	-	-	-	-
	Other Temporary crops	102.72	79.17	102.72	79.17	36.00	12.00	-	-
	Permanent crops	26.31	26.31	26.31	26.31	-	-	-	-
	Fruit crops	26.31	26.31	26.31	26.31	-	-	-	-
	Avocado	-	-	-	-	-	-	-	-
	Bananas	-	-	-	-	-	-	-	-
	Guava	-	-	-	-	-	-	-	-
	Lemons	-	-	-	-	-	-	-	-
	Mangoes	-	-	-	-	-	-	-	-
	Oranges	-	-	-	-	-	-	-	-
	Papayas	26.31	26.31	26.31	26.31	-	-	-	-
	Pineapples	-	-	-	-	-	-	-	-
	Cash crops	-	-	-	-	-	-	-	-
	Chat	-	-	-	-	-	-	-	-
	Coffee	-	-	-	-	-	-	-	-
	Tea	-	-	-	-	-	-	-	-
	Hops / 'Gesho'	-	-	-	-	-	-	-	-
	Enset	-	-	-	-	-	-	-	-
	Sugar cane	-	-	-	-	-	-	-	-
	Cotton	-	-	-	-	-	-	-	-
	Other Permanent crops	-	-	-	-	-	-	-	-

Table 3.2 Estimates of Farm Input Applied Cropland Area and Quantity of input used by Crop and Input type: For Commercial Farms, 2010/11 (2003 E.C.), Meher (Main) Season

Afar Region	Crop Type	Chemical Fertilizer Applied							
		UREA		DAP		Improved Seed		Indigenous Seed	
		Area in Hec	Amnt in Qts	Area in Hec	Amnt in Qts	Area in Hec	Amnt in Qts	Area in Hec	Amnt in Qts
	Total					100.28	19.52	28,572.87	5,713.83
	Grain crops					16.98	1.92	608.58	52.49
	Cereals					16.98	1.92	501.04	44.56
	Teff.....								
	Barley.....								
	Wheat.....								
	Maize.....					16.98	1.92	501.04	44.56
	Sorghum.....								
	Finger millet.....								
	Oats / 'Aja'.....								
	Rice.....								
	Pulse								
	Horse / Faba beans.....								
	Field Peas.....								
	Haricot beans.....								
	Chick peas.....								
	Lentils.....								
	Velch / Grass peas.....								
	Soya beans.....								
	Fenugreek.....								
	Gibb.....							107.54	7.93
	Oilseeds								
	Niger seed/neug/.....								
	Linseed.....								
	Groundnuts.....								
	Safflower.....							107.54	7.93
	Sesame.....								
	Rape seed.....							2.71	0.06
	Vegetables								
	Lettuce.....								
	Head cabbage.....								
	Ethiopian cabbage.....							2.71	0.06
	Tomatoes.....								
	Green peppers.....								
	Red peppers.....								
	Swiss chard.....							34.98	0.95
	Root crops								
	Beetroot.....								
	Carrot.....							34.98	0.95
	Onion.....								
	Potatoes.....								
	Garlic.....								
	Taro 'Godere'.....								
	Sweet potatoes.....								
	Other Temporary crops					83.30	17.60	27,926.60	5,660.33
	Permanent crops								
	Fruit crops								
	Avocado.....								
	Bananas.....								
	Guava.....								
	Lemons.....								
	Mangoes.....								
	Oranges.....								
	Papayas.....								
	Pineapples.....					83.30	17.60	27,926.60	5,660.33
	Cash crops								
	Chat.....								
	Coffea.....								
	Tea.....								
	Hops / 'Gesho'.....								
	Enset.....								
	Sugar cane.....					83.30	17.60	27,926.60	5,660.33
	Cotton.....								
	Other Permanent crops								

Table 3.3 Estimates of Fertilizer Applied, Cropland Area and Quantity of Input used by Crop and Input type: For Commercial Farms, 2010/11 (2003 E.C.), Maker (Main) Season

Crop Type	Ankara Region							
	Chemical Fertilizer Applied				Improved Seed		Indigenous Seed	
	UREA		DAP		Area in Hec	Amount in Qts	Area in Hec	Amount in Qts
Total	12,080.74	10,651.84	12,093.13	11,030.83	9,793.87	14,280.74	94,212.58	9,495.93
Grain crops	11,185.01	8,331.64	11,197.79	8,760.75	9,169.15	7,375.57	92,287.69	9,086.38
Cereals	10,443.23	8,161.80	10,802.80	8,402.05	7,606.88	6,747.41	21,958.73	2,940.34
Teff	1,404.91	683.40	1,138.33	601.84	1,073.76	202.82	2,094.48	589.95
Barley	2.35	5.00	3.66	11.80	-	-	24.30	11.54
Wheat	1,316.20	1,987.79	1,477.78	2,009.74	1,364.06	2,632.63	277.32	198.24
Maize	7,646.49	5,432.33	7,949.46	5,735.68	5,000.39	3,803.77	1,201.06	266.14
Sorghum	39.73	31.78	-	-	132.46	16.20	18,203.13	1,899.14
Finger millet	-	-	-	-	2.65	1.00	56.46	18.34
Oats / 'Aja'	-	-	-	-	-	-	-	-
Rice	33.56	21.50	33.56	43.00	33.56	91.00	101.98	157.00
Pulse	272.46	116.00	487.97	308.45	828.40	537.48	441.80	363.34
Horse / Faba beans	-	-	-	-	-	-	65.09	113.56
Field Peas	-	-	-	-	-	-	-	-
Haricot beans	-	-	24.90	31.50	145.18	66.86	59.88	28.25
Chick peas	-	-	-	-	131.19	111.00	225.47	175.79
Lentils	-	-	-	-	-	-	36.01	16.05
Vetch / Grass peas	-	-	-	-	-	-	2.11	1.20
Soya beans	272.46	116.00	463.07	276.95	-	359.62	53.24	28.50
Fenugreek	-	-	-	-	-	-	-	-
Gibfo	-	-	-	-	-	-	-	-
Oilseeds	449.32	53.84	107.02	50.25	733.87	90.68	69,887.16	5,794.70
Niger seed/neug/	-	-	-	-	-	-	111.30	18.72
Linseed	-	-	-	-	-	-	40.72	50.31
Groundnuts	-	-	-	-	-	-	36.00	4.00
Safflower	-	-	-	-	-	-	-	-
Sesame	342.30	3.59	-	-	626.85	57.93	69,699.14	5,721.67
Rape seed	-	50.25	-	50.25	-	32.75	-	-
Vegetables	464.05	545.60	446.27	553.29	334.82	23.73	147.13	86.09
Lettuce	-	-	-	-	-	-	32.14	0.06
Head cabbage	-	-	-	-	-	-	2.78	0.06
Ethiopian cabbage	-	-	-	-	-	-	-	-
Tomatoes	270.59	301.10	254.67	296.75	282.82	9.43	25.64	0.23
Green peppers	-	-	-	-	-	-	-	-
Red peppers	193.47	244.50	191.81	256.54	52.00	14.30	86.56	85.74
Swiss chard	-	-	-	-	-	-	-	-
Root crops	165.87	1,647.25	159.63	1,608.36	105.45	4,612.03	104.26	98.20
Beetroot	-	-	-	-	-	-	1.82	0.06
Carrot	-	-	-	-	3.01	107.50	-	-
Onion	131.17	183.25	131.17	142.86	102.45	4,504.53	60.36	10.24
Potatoes	6.24	18.50	-	-	-	-	6.24	74.30
Garlic	-	-	-	-	-	-	7.38	13.60
Tziru 'Godere'	-	-	-	-	-	-	-	-
Sweet potatoes	28.46	1,465.50	28.46	1,465.50	-	-	28.46	-
Other Temporary crops	62.93	70.17	62.93	70.17	102.03	2,262.50	53.93	0.71
Permanent crops	222.88	56.98	226.51	38.26	82.42	6.91	1,619.57	212.55
Fruit crops	219.71	51.18	226.51	38.26	32.70	-	-	-
Avocado	-	-	-	-	-	-	-	-
Bananas	-	-	-	-	-	-	-	-
Guava	-	-	-	-	-	-	-	-
Lemons	-	-	-	-	-	-	-	-
Mangoes	-	51.18	-	38.22	32.70	-	-	-
Oranges	-	-	6.81	0.04	-	-	-	-
Papayas	-	-	-	-	-	-	-	-
Pineapples	-	-	-	-	-	-	-	-
Cash crops	3.17	5.80	-	-	49.32	6.90	1,619.57	212.55
Chat	-	-	-	-	-	-	-	-
Coffee	-	-	-	-	2.00	-	-	-
Tea	-	-	-	-	-	-	-	-
Hops / 'Gesho'	-	-	-	-	-	-	-	-
Enset	-	-	-	-	-	-	-	-
Sugar cane	3.17	5.80	-	-	-	-	-	-
Cotton	-	-	-	-	47.32	6.90	1,619.57	212.55
Other Permanent crops	-	-	-	-	0.40	0.01	-	-

Table 3.4 Estimates of Farm Input Applied Cropland Area and Quantity of Input used by Crop and Input type: For Commercial Farms 2018/19 (2005 E.C.) Maker (Main) Season

Oromiya Region

Crop Type	Chemical Fertilizer Applied							
	UREA		DAP		Improved Seed		Indigenous Seed	
	Area in Hec	Amnt in Qts	Area in Hec	Amnt in Qts	Area in Hec	Amnt in Qts	Area in Hec	Amnt in Qts
Total	80,405.24	106,899.42	84,087.22	199,045.55	58,748.12	95,891.59	39,213.08	33,766.93
Grain crops	58,750.30	50,180.10	71,477.73	183,721.03	53,544.82	94,329.92	38,828.28	33,548.23
Cereals	56,034.21	46,962.79	68,682.10	103,025.82	51,247.08	92,270.27	26,533.91	26,926.09
Teff	314.18	105.36	2,083.84	972.21	280.68	143.07	2,414.91	539.40
Barley	-	-	980.25	957.70	834.53	1,038.35	192.17	260.00
Wheat	28,466.57	17,777.02	38,364.13	49,930.00	26,555.55	76,014.55	9,906.53	21,842.88
Maize	27,002.29	28,902.34	27,098.09	51,084.05	23,335.14	15,000.50	8,445.03	2,016.91
Sorghum	201.17	124.57	105.80	31.86	221.18	68.01	-	1,928.45
Finger millet	-	-	-	-	14.00	2.80	98.50	33.25
Oats / 'Aja'	-	-	-	-	-	-	-	-
Rice	50.00	52.50	50.00	50.00	8.00	3.00	15.32	7.40
Pulse	1,755.12	2,877.68	2,689.37	78,463.86	1,672.30	1,905.38	3,411.31	4,008.89
Horse / Faba beans	-	-	-	641.52	469.54	947.54	103.50	31.98
Field Peas	-	-	-	-	-	-	-	-
Haricot beans	1,310.99	2,808.63	1,714.55	77,527.20	1,174.76	791.34	1,659.67	2,692.65
Chick peas	-	-	24.71	13.00	24.00	162.50	-	268.41
Lentils	-	-	4.00	6.00	-	-	4.85	4.19
Vetch / Grass peas	-	-	-	-	-	-	3.32	2.40
Soya beans	444.13	269.05	392.57	276.14	4.00	4.00	1,080.56	1,005.94
Fenugreek	-	-	-	-	-	-	2.00	0.13
Gibfo	-	-	-	-	-	-	-	-
Oilseeds	960.97	339.63	2,106.26	2,231.35	625.44	154.27	8,682.06	2,715.45
Niger seed/ineugl	-	-	-	-	-	-	451.83	105.34
Linseed	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	128.47	71.08
Safflower	-	-	-	-	-	-	-	-
Sesame	863.45	314.58	1,107.55	498.40	88.73	28.91	-	2,456.11
Rape seed	97.52	25.05	998.71	1,732.95	538.71	125.36	460.00	82.93
Vegetables	2,542.29	3,877.35	2,645.66	4,191.01	2,472.32	1,192.82	317.83	20.91
Lettuce	120.20	98.40	120.20	98.40	120.20	0.09	-	-
Head cabbage	481.19	561.46	479.91	556.66	380.88	2.92	98.23	0.98
Ethiopian cabbage	-	13.09	-	19.64	-	0.10	-	-
Tomatoes	1,593.10	2,715.20	1,793.40	3,227.19	1,866.09	1,184.54	29.06	0.13
Green peppers	76.88	126.44	77.70	70.08	27.86	0.70	5.60	0.12
Red peppers	264.37	382.76	187.91	219.02	70.75	4.48	184.94	19.68
Swiss chard	-	-	-	-	-	-	-	-
Root crops	1,902.23	5,497.05	1,778.90	4,047.33	1,823.26	141.99	168.72	38.74
Beetroot	0.30	0.09	0.30	0.06	-	-	-	-
Carrot	-	-	-	-	-	-	-	-
Onion	1,895.01	5,483.76	1,719.92	3,975.07	1,823.26	141.99	158.68	17.01
Potatoes	6.92	13.20	58.68	72.20	-	-	10.04	21.73
Garlic	-	-	-	-	-	-	-	-
Taro 'Godere'	-	-	-	-	-	-	-	-
Sweet potatoes	-	-	-	-	-	-	-	-
Other Temporary crops	661.79	821.74	398.77	847.52	578.49	173.66	98.73	59.05
Permanent crops	16,548.63	46,323.18	7,786.16	6,238.66	329.23	53.20	1.50	-
Fruit crops	1,309.45	4,847.91	1,277.25	1,430.83	-	-	-	-
Avocado	-	-	-	-	-	-	-	-
Bananas	0.79	3.00	0.79	3.00	-	-	-	-
Guava	-	-	-	-	-	-	-	-
Lemons	19.22	36.70	-	-	-	-	-	-
Mangoes	3.50	7.00	3.50	3.50	-	-	-	-
Oranges	-	3,771.71	-	974.48	-	-	-	-
Papayas	199.30	1,029.50	186.32	449.85	-	-	-	-
Pineapples	-	-	-	-	-	-	-	-
Cash crops	13,144.03	38,335.35	5,725.73	3,416.81	190.00	53.20	1.50	-
Chat	-	-	-	-	-	-	1.50	-
Coffee	5,396.10	5,549.04	5,535.73	3,414.91	-	-	-	-
Tea	-	-	-	-	-	-	-	-
Hops / 'Gesho'	-	-	-	-	-	-	-	-
Enset	-	-	-	-	-	-	-	-
Sugar cane	7,747.93	32,786.31	190.00	1.90	190.00	53.20	-	-
Cotton	-	-	-	-	-	-	-	-
Other Permanent crops	2,095.15	3,338.92	783.18	1,391.02	139.23	-	-	-

Table 3.5 Estimates of Farm Input Applied Cropland Area and Quantity of Input used by Crop and Input type: For Commercial Farms, 2010/11 (2003 E.C.), Meher (Maia) Season

Somali Region	Crop Type	Chemical Fertilizer Applied				Improved Seed		Indigenous Seed	
		UREA		DAP		Area in Hec	Amnt in Qts	Area in Hec	Amnt in Qts
		Area in Hec	Amnt in Qts	Area in Hec	Amnt in Qts				
	Total	105.54	5.50	18.59	10.50	33.24	9.42	407.00	96.80
	Grain crops	100.00	1.00	6.05	2.75	6.50	1.65	380.50	88.20
	Cereals	100.00	1.00	6.05	2.75	6.50	1.65	297.75	80.00
	Teff	-	-	-	-	-	-	-	-
	Barley	-	-	-	-	-	-	-	-
	Wheat	-	-	-	-	-	-	-	-
	Maze	100.00	1.00	6.05	2.75	6.50	1.65	295.75	79.50
	Sorghum	-	-	-	-	-	-	-	-
	Finger millet	-	-	-	-	-	-	-	-
	Oats / 'Aja'	-	-	-	-	-	-	2.00	0.50
	Rice	-	-	-	-	-	-	-	6.25
	Pulse	-	-	-	-	-	-	-	-
	Horse / Faba beans	-	-	-	-	-	-	-	-
	Field Peas	-	-	-	-	-	-	-	6.25
	Haricot beans	-	-	-	-	-	-	-	-
	Chick peas	-	-	-	-	-	-	-	-
	Lentils	-	-	-	-	-	-	-	-
	Vetch / Grass peas	-	-	-	-	-	-	-	-
	Soya beans	-	-	-	-	-	-	-	-
	Fenugreek	-	-	-	-	-	-	-	-
	Gibfo	-	-	-	-	-	-	14.25	1.95
	Oilseeds	-	-	-	-	-	-	-	-
	Niger seed/leug'	-	-	-	-	-	-	-	-
	Linseed	-	-	-	-	-	-	-	-
	Groundnuts	-	-	-	-	-	-	-	-
	Safflower	-	-	-	-	-	-	14.25	1.95
	Sesame	-	-	-	-	-	-	-	-
	Rape seed	-	-	-	-	7.70	0.22	2.00	0.01
	Vegetables	-	-	-	-	-	-	-	-
	Lettuce	-	-	-	-	-	-	-	-
	Head cabbage	-	-	-	-	0.70	-	-	-
	Ethiopian cabbage	-	-	-	-	-	-	-	-
	Tomatoes	-	-	-	-	7.00	0.22	2.00	0.01
	Green peppers	-	-	-	-	-	-	-	-
	Red peppers	-	-	-	-	-	-	-	-
	Swiss chard	-	-	-	-	-	-	-	-
	Root crops	-	-	7.00	1.75	13.50	1.55	22.50	8.53
	Beetroot	-	-	-	-	-	-	-	-
	Carrot	-	-	-	-	-	-	-	-
	Onion	-	-	7.00	1.75	13.50	1.55	22.50	8.53
	Potatoes	-	-	-	-	-	-	-	-
	Garlic	-	-	-	-	-	-	-	-
	Taro 'Godere'	-	-	-	-	-	-	-	-
	Sweet potatoes	-	-	-	-	-	-	-	-
	Other Temporary crops	5.54	4.50	5.54	6.00	5.54	6.00	2.00	0.06
	Permanent crops	-	-	-	-	-	-	-	-
	Fruit crops	-	-	-	-	-	-	-	-
	Avocado	-	-	-	-	-	-	-	-
	Bananas	-	-	-	-	-	-	-	-
	Guava	-	-	-	-	-	-	-	-
	Lemons	-	-	-	-	-	-	-	-
	Mangoes	-	-	-	-	-	-	-	-
	Oranges	-	-	-	-	-	-	-	-
	Papayas	-	-	-	-	-	-	-	-
	Pineapples	-	-	-	-	-	-	-	-
	Cash crops	-	-	-	-	-	-	-	-
	Chat	-	-	-	-	-	-	-	-
	Coffee	-	-	-	-	-	-	-	-
	Tea	-	-	-	-	-	-	-	-
	Hops / 'Gesho'	-	-	-	-	-	-	-	-
	Enset	-	-	-	-	-	-	-	-
	Sugar cane	-	-	-	-	-	-	-	-
	Cotton	-	-	-	-	-	-	-	-
	Other Permanent crops	-	-	-	-	-	-	-	-

Table 3.6 Estimates of Farm Input Applied Cropland Area and Quantity of Input used by Crop and Input type: For Commercial Farms, 2010/11 (2003 E.C.), Meher (Main) Season

Benishangul-Gumuz Region

Crop Type	Chemical Fertilizer Applied							
	UREA		DAP		Improved Seed		Indigenous Seed	
	Area in Hec	Amnt in Qts	Area in Hec	Amnt in Qts	Area in Hec	Amnt in Qts	Area in Hec	Amnt in Qts
Total.....	5,785.78	5,347.10	8,151.57	4,989.21	8,582.14	2,527.02	76,374.96	22,832.11
Grain crops.....	5,785.78	5,347.10	7,702.69	4,799.11	7,898.74	2,501.89	75,279.13	22,580.05
Cereals.....	3,940.49	4,659.12	4,979.61	3,992.29	6,087.66	2,291.35	18,066.60	1,027.81
Teff.....	-	-	-	-	-	-	-	-
Barley.....	-	-	-	-	-	-	-	-
Wheat.....	-	-	-	-	-	-	58.35	21.00
Maize.....	3,830.89	4,604.32	3,760.41	3,749.05	4,056.71	698.39	1,230.46	218.57
Sorghum.....	108.80	54.30	33.00	6.00	161.55	11.91	12,218.50	1,284.81
Finger millet.....	-	-	-	-	-	-	11.82	1.50
Oats / 'Aja'.....	-	-	-	-	-	-	-	-
Rice.....	1.00	0.50	1,186.20	237.24	1,669.60	1,571.05	2,558.47	1,501.93
Pulse.....	-	-	-	-	590.54	188.28	1,679.54	1,311.77
Horse / Faba beans.....	-	-	-	-	-	-	-	-
Field Peas.....	-	-	-	-	-	-	-	-
Haricot beans.....	-	-	-	-	-	-	265.66	108.31
Chick peas.....	-	-	-	-	-	-	270.10	108.04
Lentils.....	-	-	-	-	-	-	-	-
Vetch / Grass peas.....	-	-	-	-	-	-	-	-
Soya beans.....	-	-	-	-	590.54	188.28	1,143.75	1,095.42
Fenugreek.....	-	-	-	-	-	-	-	-
Gibto.....	-	-	-	-	-	-	-	-
Oilseeds.....	1,845.29	687.98	2,723.08	806.82	1,220.34	32.26	-	18,240.47
Niger seed/neug/.....	-	-	-	-	-	-	1,096.80	300.26
Linseed.....	-	-	-	-	-	-	-	-
Groundnuts.....	-	-	-	-	-	-	35.23	37.99
Safflower.....	-	-	-	-	16.48	2.00	-	-
Sesame.....	1,845.29	687.98	2,723.08	806.82	1,203.87	30.26	-	17,902.22
Rape seed.....	-	-	-	-	-	-	-	-
Vegetables.....	-	-	18.88	9.50	96.05	2.52	148.50	8.22
Lettuce.....	-	-	-	-	-	-	-	-
Head cabbage.....	-	-	-	-	-	-	-	-
Ethiopian cabbage.....	-	-	-	-	-	-	-	-
Tomatoes.....	-	-	-	-	0.23	0.01	9.84	0.03
Green peppers.....	-	-	-	-	-	-	-	-
Red peppers.....	-	-	18.88	9.50	95.82	2.51	138.66	8.16
Swiss chard.....	-	-	-	-	-	-	-	-
Root crops.....	-	-	-	-	447.35	6.61	8.24	8.88
Beetroot.....	-	-	-	-	-	-	-	-
Carrot.....	-	-	-	-	-	-	-	-
Onion.....	-	-	-	-	447.35	6.61	0.40	0.13
Potatoes.....	-	-	-	-	-	-	7.84	8.75
Garlic.....	-	-	-	-	-	-	-	-
Taro 'Godere'.....	-	-	-	-	-	-	-	-
Sweet potatoes.....	-	-	-	-	-	-	-	233.82
Other Temporary crops.....	-	-	430.00	180.60	140.00	16.00	-	-
Permanent crops.....	-	-	-	-	-	-	18.18	1.04
Fruit crops.....	-	-	-	-	-	-	-	-
Avocado.....	-	-	-	-	-	-	-	-
Bananas.....	-	-	-	-	-	-	-	-
Guava.....	-	-	-	-	-	-	-	-
Lemons.....	-	-	-	-	-	-	-	-
Mangoes.....	-	-	-	-	-	-	-	-
Oranges.....	-	-	-	-	-	-	-	-
Papayas.....	-	-	-	-	-	-	-	-
Pineapples.....	-	-	-	-	-	-	18.18	1.04
Cash crops.....	-	-	-	-	-	-	-	-
Chat.....	-	-	-	-	-	-	-	-
Coffee.....	-	-	-	-	-	-	-	-
Tea.....	-	-	-	-	-	-	-	-
Hops / 'Gesho'.....	-	-	-	-	-	-	-	-
Enset.....	-	-	-	-	-	-	-	-
Sugar cane.....	-	-	-	-	-	-	18.18	1.04
Cotton.....	-	-	-	-	-	-	-	-
Other Permanent crops.....	-	-	-	-	-	-	-	-

Table 3.7 Estimates of Farm Input Applied Cropland Area and Quantity of input used by Crop and input type: For Commercial Farms 2010/11 (2003 E.C.), Meher (Main) Season

Crop Type	Chemical Fertilizer Applied				Improved Seed		Indigenous Seed	
	UREA		DAP		Area in Hec	Amount in Qts	Area in Hec	Amount in Qts
	Area in Hec	Amount in Qts	Area in Hec	Amount in Qts	Area in Hec	Amount in Qts	Area in Hec	Amount in Qts
Total	31,031.31	24,120.32	26,931.68	26,142.64	29,458.15	21,988.64	12,495.97	6,518.79
Grain crops	20,513.03	15,103.80	23,293.91	22,434.47	23,788.09	16,827.26	10,649.21	3,915.79
Cereals	19,485.24	15,637.70	21,489.40	20,917.26	21,483.87	15,197.89	5,183.43	1,972.71
Teff	2,113.06	1,585.86	2,378.46	2,559.14	2,131.02	771.68	830.13	159.83
Barley	107.13	62.01	368.73	359.36	364.50	241.09	253.95	184.11
Wheat	4,528.62	1,937.42	5,537.20	5,242.02	5,013.97	10,281.29	739.52	860.64
Maize	12,174.14	11,222.53	12,644.86	12,339.99	13,239.45	3,616.75	1,380.67	325.86
Sorghum	14.93	9.88	13.00	6.50	-	-	1,908.82	421.91
Finger millet	-	-	-	-	-	-	-	-
Oats / 'Aji'	-	-	-	410.25	-	287.08	70.35	20.57
Rice	547.16	820.00	547.16	1,485.87	1,875.72	1,595.23	2,158.06	1,568.48
Pulse	739.53	407.26	1,747.59	58.88	18.56	25.00	-	39.92
Horse / Faba beans	-	-	-	8.81	4.28	2.14	1.00	0.25
Field Peas	4.28	4.28	5.28	8.81	4.28	2.14	1.00	0.25
Haricot beans	734.50	402.69	1,586.84	1,382.96	1,473.03	1,201.81	1,232.74	835.59
Chick peas	-	-	81.75	32.43	327.90	286.33	862.72	691.81
Lentils	-	-	2.68	2.75	-	-	2.68	0.77
Veich / Grass peas	-	-	-	-	-	-	-	-
Soya beans	0.75	0.29	0.25	0.05	51.95	79.95	6.70	1.00
Fenugreek	-	-	-	-	-	-	-	0.14
Gibfo	-	-	-	-	-	-	-	-
Oilseeds	288.26	58.84	56.92	31.34	428.50	34.14	3,307.72	373.60
Niger seed/ineup'	-	-	-	-	-	-	222.39	22.32
Linseed	-	-	-	-	-	-	-	54.56
Groundnuts	-	-	-	-	-	-	21.80	10.00
Safflower	-	-	-	-	-	-	-	-
Sesame	288.26	58.84	56.92	31.34	428.50	34.14	3,017.24	286.72
Rape seed	-	-	-	-	-	-	-	-
Vegetables	1,554.84	1,511.94	1,565.29	2,030.51	868.43	238.75	994.77	54.34
Lettuce	-	-	-	281.67	-	2.26	-	-
Head cabbage	-	207.27	-	-	-	-	3.04	0.04
Ethiopian cabbage	-	-	-	-	-	-	-	-
Tomatoes	753.09	577.10	699.73	801.13	282.49	216.61	201.43	0.10
Green peppers	205.26	157.23	205.26	255.53	13.68	3.38	48.33	0.30
Red peppers	477.52	570.34	541.33	692.18	442.31	16.51	741.98	53.90
Swiss chard	-	-	-	-	-	-	-	-
Root crops	550.71	529.98	791.80	1,014.36	629.57	4,108.96	87.37	2,368.22
Beetroot	0.74	1.25	0.74	1.25	0.74	0.06	-	-
Carrot	1.40	0.10	1.40	0.20	1.40	0.01	-	-
Onion	292.91	360.60	292.91	358.81	236.05	10.20	6.69	55.50
Potatoes	255.41	167.84	370.72	533.70	272.81	3,414.70	73.21	2,283.51
Garlic	0.25	0.20	7.47	1.88	-	-	7.47	29.21
Taro 'Godere'	-	-	-	-	-	-	-	-
Sweet potatoes	-	-	118.56	118.56	118.56	684.00	-	-
Other Temporary crops	16.95	7.50	112.68	19.28	5.40	30.00	48.13	19.93
Permanent crops	8,395.78	5,967.10	1,168.00	644.00	4,166.66	783.67	716.49	160.42
Fruit crops	8.00	12.00	8.00	8.00	-	-	-	-
Avocado	-	-	-	-	-	-	-	-
Bananas	8.00	12.00	8.00	8.00	-	-	-	-
Guava	-	-	-	-	-	-	-	-
Lemons	-	-	-	-	-	-	-	-
Mangoes	-	-	-	-	-	-	-	-
Oranges	-	-	-	-	-	-	-	-
Papayas	-	-	-	-	-	-	-	-
Pineapples	-	-	-	-	-	-	-	-
Cash crops	8,221.96	5,421.10	1,160.00	636.00	3,616.00	764.45	716.49	160.42
Chat	-	-	-	-	-	-	-	-
Coffee	6,603.96	1,618.75	1,160.00	636.00	-	-	-	-
Tea	689.98	3,621.35	-	-	-	-	-	-
Hops / 'Gesho'	-	-	-	-	-	-	-	-
Erset	-	-	-	-	-	-	-	-
Sugar cane	-	-	-	-	-	-	-	-
Cotton	928.00	181.00	-	-	3,616.00	764.45	716.49	160.42
Other Permanent crops	165.82	534.00	-	-	550.66	19.22	-	-

Table 3.8 Estimates of Farm Input Applied Cropland Area and Quantity of input used by Crop and input type: For Commercial Farms 2010/11 (2003 E.C.), Mekele (Male) Season

Crop Type	Gambella Region							
	UREA		Chemical Fertilizer Applied DAP		Improved Seed		Indigenous Seed	
	Area in Hec	Amnt in Qts	Area in Hec	Amnt in Qts	Area in Hec	Amnt in Qts	Area in Hec	Amnt in Qts
Total.....	47.00	8.00	-	-	4,399.57	3,246.03	2,658.20	775.19
Grain crops.....	47.00	8.00	-	-	265.18	44.73	-	327.65
Cereals.....	6.00	6.00	-	-	109.61	34.75	334.92	52.21
Teff.....	-	-	-	-	-	-	-	-
Barley.....	-	-	-	-	-	-	-	-
Wheat.....	-	-	-	-	-	-	-	-
Maize.....	-	-	-	-	-	-	76.89	10.78
Sorghum.....	-	-	-	-	-	-	-	20.22
Finger millet.....	-	-	-	-	-	-	-	-
Oats / 'Aja'.....	-	-	-	-	-	-	-	-
Rice.....	6.00	6.00	-	-	109.61	34.75	126.38	21.23
Pulse.....	-	-	-	-	3.75	1.90	148.94	95.00
Horse / Faba beans.....	-	-	-	-	-	-	-	-
Field Peas.....	-	-	-	-	-	-	-	-
Haricot beans.....	-	-	-	-	-	-	-	-
Chick peas.....	-	-	-	-	-	-	-	-
Lentils.....	-	-	-	-	-	-	-	-
Vetch / Grass peas.....	-	-	-	-	-	-	-	-
Soya beans.....	-	-	-	-	3.75	1.90	148.94	95.00
Fenugreek.....	-	-	-	-	-	-	-	-
Gibfo.....	-	-	-	-	-	-	-	-
Oilseeds.....	41.00	2.00	-	-	151.83	8.08	-	180.44
Niger seed/noug/.....	-	-	-	-	-	-	-	-
Linseed.....	-	-	-	-	-	-	165.07	18.59
Groundnuts.....	-	-	-	-	-	-	-	-
Safflower.....	-	-	-	-	-	-	-	-
Sesame.....	41.00	2.00	-	-	151.83	8.08	-	161.85
Rape seed.....	-	-	-	-	-	-	-	-
Vegetables.....	-	-	-	-	-	-	-	-
Lettuce.....	-	-	-	-	-	-	-	-
Head cabbage.....	-	-	-	-	-	-	-	-
Ethiopian cabbage.....	-	-	-	-	-	-	-	-
Tomatoes.....	-	-	-	-	-	-	-	-
Green peppers.....	-	-	-	-	-	-	-	-
Red peppers.....	-	-	-	-	-	-	-	-
Swiss chard.....	-	-	-	-	-	-	-	-
Root crops.....	-	-	-	-	-	-	-	-
Beetroot.....	-	-	-	-	-	-	-	-
Carrot.....	-	-	-	-	-	-	-	-
Onion.....	-	-	-	-	-	-	-	-
Potatoes.....	-	-	-	-	-	-	-	-
Garlic.....	-	-	-	-	-	-	-	-
Taro 'Godere'.....	-	-	-	-	-	-	-	-
Sweet potatoes.....	-	-	-	-	-	-	-	-
Other Temporary crops....	-	-	-	-	4,134.38	3,201.30	213.22	447.54
Permanent crops.....	-	-	-	-	-	-	-	-
Fruit crops.....	-	-	-	-	-	-	-	-
Avocado.....	-	-	-	-	-	-	-	-
Bananas.....	-	-	-	-	-	-	-	-
Guava.....	-	-	-	-	-	-	-	-
Lemons.....	-	-	-	-	-	-	-	-
Mangoes.....	-	-	-	-	-	-	-	-
Oranges.....	-	-	-	-	-	-	-	-
Papayas.....	-	-	-	-	-	-	-	-
Pineapples.....	-	-	-	-	4,134.38	3,201.30	213.22	447.54
Cash crops.....	-	-	-	-	-	-	-	-
Chat.....	-	-	-	-	-	-	-	-
Coffee.....	-	-	-	-	-	-	-	-
Tea.....	-	-	-	-	-	-	-	-
Hops / 'Gesho'.....	-	-	-	-	-	-	-	-
Enset.....	-	-	-	-	-	-	-	-
Sugar cane.....	-	-	-	-	4,134.38	3,201.30	213.22	447.54
Cotton.....	-	-	-	-	-	-	-	-
Other Permanent crops....	-	-	-	-	-	-	-	-

Table 3.8 Estimates of Farm Input Applied Cropland Area and Quantity of Input used by Crop and Input type: For Commercial Farms, 2010/11 (2003 E.C.), Meher (Main) Season

Harari Region	Crop Type	Chemical Fertilizer Applied				Improved Seed		Indigenous Seed	
		UREA		DAP		Area in Hec	Amnt in Qts	Area in Hec	Amnt in Qts
		Area in Hec	Amnt in Qts	Area in Hec	Amnt in Qts				
						2.09			
	Total								
	Grain crops								
	Cereals								
	Teff								
	Barley								
	Wheat								
	Maize								
	Sorghum								
	Finger millet								
	Oats / 'Aja'								
	Rice								
	Pulse								
	Horse / Faba beans								
	Field Peas								
	Haricot beans								
	Chick peas								
	Lentils								
	Veich / Grass peas								
	Soya beans								
	Fenugreek								
	Gibfo								
	Oilseeds								
	Niger seed/keup'								
	Linseed								
	Groundnuts								
	Safflower								
	Sesame								
	Rape seed								
	Vegetables					1.00			
	Lettuce								
	Head cabbage								
	Ethiopian cabbage								
	Tomatoes					1.00			
	Green peppers								
	Red peppers								
	Swiss chard								
	Root crops					1.09			
	Beetroot								
	Carrot								
	Onion					1.09			
	Potatoes								
	Garlic								
	Taro 'Goders'								
	Sweet potatoes								
	Other Temporary crops								
	Permanent crops								
	Fruit crops								
	Avocado								
	Bananas								
	Guava								
	Lemons								
	Mangoes								
	Oranges								
	Papayas								
	Pineapples								
	Cash crops								
	Chat								
	Coffee								
	Tea								
	Hops / 'Gesho'								
	Enset								
	Sugar cane								
	Cotton								
	Other Permanent crops								

Table 3.19 Estimates of Farm Input Applied Cropland Area and Quantity of input used by Crop and input type: For Commercial Farms 2010/11 (2003 E.C.), Mekele (Maia) Season

DIRE DAWA CITY ADMINISTRATION

Crop Type	Chemical Fertilizer Applied				Improved Seed		Indigenous Seed	
	UREA		DAP		Area in Hec	Amnt in Qts	Area in Hec	Amnt in Qts
	Area in Hec	Amnt in Qts	Area in Hec	Amnt in Qts				
Total.....								
Grain crops.....								
Cereals.....								
Teff.....								
Barley.....								
Wheat.....								
Maize.....								
Sorghum.....								
Finger millet.....								
Oats / 'Aja'.....								
Rice.....								
Pulse.....								
Horse / Faba beans.....								
Field Peas.....								
Harcot beans.....								
Chick peas.....								
Lentils.....								
Vetch / Grass peas.....								
Soya beans.....								
Fenugreek.....								
Gibto.....								
Oilseeds.....								
Niger seed/muqil.....								
Linseed.....								
Groundnuts.....								
Safflower.....								
Sesame.....								
Rape seed.....								
Vegetables.....								
Lettuce.....								
Head cabbage.....								
Ethiopian cabbage.....								
Tomatoes.....								
Green peppers.....								
Red peppers.....								
Swiss chard.....								
Root crops.....								
Beetroot.....								
Carrot.....								
Onion.....								
Potatoes.....								
Garlic.....								
Taro 'Godere'.....								
Sweet potatoes.....								
Other Temporary crops.....								
Permanent crops.....								
Fruit crops.....								
Avocado.....								
Bananas.....								
Guava.....								
Lemons.....								
Mangoes.....								
Oranges.....								
Papayas.....								
Pineapples.....								
Cash crops.....								
Chat.....								
Coffee.....								
Tea.....								
Hops / 'Gesho'.....								
Enset.....								
Sugar cane.....								
Cotton.....								
Other Permanent crops.....								

Table 3 Contd

Crop Type	Fertilisers		Chemicals		Herbicides		Others	
	Fertilisers		Fungicides		Herbicides		Others	
	Area in Hec	Amount in Qts	Area in Hec	Amount in Qts	Area in Hec	Amount in Qts	Area in Hec	Amount in Qts
Total	78,838.84	7,095.84	28,887.85	1,497.21	105,278.10	29,933.07	9,364.79	47,899.88
Grain crops	22,279.71	838.38	28,071.09	668.42	86,507.55	22,304.49	4,049.23	17,528.75
Cereals	18,842.43	803.30	28,885.19	838.82	83,766.06	20,009.98	3,378.08	17,202.46
Tef	362.41	3.29	303.00	3.01	4,224.12	36.30	59.37	36.40
Bahry	12.28	0.25	50.00	0.50	971.33	7.67	1.50	-
Wheat	1,140.33	9.74	27,799.79	621.37	30,081.29	6,989.42	2,290.00	16,707.08
Maize	11,631.37	518.48	681.41	14.68	21,254.06	12,569.72	927.48	456.87
Sorghum	2,688.23	28.55	31.00	0.25	27,117.37	406.75	47.74	3.00
Finger millet	-	-	-	-	51.87	0.13	-	-
Cats / Aja'	-	-	-	-	-	-	50.00	-
Rice	717.71	42.99	-	24.87	1,769.43	1,540.70	510.85	224.41
Pulses	1,881.51	132.38	683.40	-	325.00	90.41	0.65	1.00
Horse / Faba beans	472.24	4.33	-	19.23	-	-	8.00	78.72
Field Peas	13.28	8.93	8.00	5.43	687.18	691.26	-	-
Haricot beans	363.06	6.03	628.01	0.08	144.66	470.45	475.40	143.14
Chick peas	1,032.33	113.06	24.71	0.06	-	-	-	-
Lentils	-	-	2.68	-	-	-	-	-
Vetch / Grass peas	-	-	20.00	0.08	612.57	288.58	26.60	0.56
Soya beans	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-
Gilo	-	-	-	-	-	-	-	-
Oilseeds	3,846.77	103.73	522.59	4.73	1,038.06	753.81	162.59	101.94
Niger seed/niugu'	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-
Sesame	3,348.05	48.33	302.59	3.85	532.59	642.65	162.50	101.94
Rape seed	498.72	55.39	220.00	0.88	505.47	111.16	-	-
Vegetables	3,829.76	299.53	2,672.32	285.83	864.81	399.28	491.28	298.98
Lettuce	159.66	1.06	-	-	-	-	39.48	0.21
Head cabbage	567.87	44.01	2.60	0.19	1.00	0.01	20.80	14.53
Ethiopian cabbage	41.37	0.97	-	-	-	-	3.04	-
Tomatoes	2,599.27	181.19	2,302.50	131.70	8.09	0.51	214.56	160.42
Green peppers	72.69	7.23	56.37	5.52	-	-	188.25	121.58
Red peppers	488.89	65.08	310.85	148.22	575.52	396.76	6.50	0.20
Swiss chard	-	-	-	-	-	-	18.66	0.00
Root crops	2,458.17	199.00	2,345.71	241.85	24.75	1.00	254.33	643.88
Beetroot	-	-	-	-	-	-	0.30	0.01
Carrot	-	-	-	-	-	-	38.44	1.03
Onion	2,333.50	192.66	2,164.58	239.45	6.19	0.50	186.94	69.95
Potatoes	124.64	6.34	181.14	2.40	18.56	0.50	28.65	573.00
Garlic	-	-	-	-	-	-	-	-
Taro 'Godere'	-	-	-	-	-	-	-	-
Sweet potatoes	-	-	-	-	-	-	-	-
Other Temporary crops	1,283.13	53.76	781.88	52.28	-	-	550.75	530.51
Permanent crops	48,896.87	5,703.96	2,796.55	248.03	19,161.19	7,228.30	4,019.11	28,898.75
Fruit crops	1,347.60	78.74	483.88	48.53	405.36	44.35	925.47	15,927.70
Avocado	1.00	0.03	1.00	0.05	-	-	-	-
Bananas	-	-	52.36	7.02	46.00	2.58	-	-
Guava	55.00	8.96	55.00	0.91	-	-	-	-
Lemons	28.50	4.01	28.50	1.86	28.50	2.70	-	-
Mangoes	166.10	1.90	8.24	0.10	10.00	0.07	-	-
Oranges	963.79	62.20	132.46	7.92	320.86	39.00	904.91	15,837.52
Papayas	133.21	1.62	186.32	30.67	-	-	20.56	90.18
Pineapples	-	-	-	-	-	-	-	-
Cash crops	44,915.37	5,551.59	227.74	21.80	16,564.76	7,039.17	1,135.33	1,452.82
Chat	-	-	-	-	-	-	-	-
Coffee	43.88	0.36	-	-	8,759.39	268.15	943.08	1,447.43
Tes	-	-	-	-	-	-	-	-
Hops / 'Gesho'	-	-	-	-	-	-	-	-
Enset	-	-	-	-	-	-	-	-
Sugar cane	4,827.40	208.72	-	-	7,805.37	6,771.02	-	-
Cotton	40,044.09	5,342.57	227.74	21.80	-	-	192.25	4.59
Other Permanent crops	2,833.90	73.83	2,105.23	177.70	1,191.07	144.76	1,958.31	11,519.83

Table 3.1 Contd

Meher Season

Crop Type	Chemicals							
	Pesticide		Fungicides		Herbicides		Others	
	Area in Hec	Amount in Qto	Area in Hec	Amount in Qto	Area in Hec	Amount in Qto	Area in Hec	Amount in Qto
Total	2,421.87	28.43	236.07	20.84	11,008.77	185.14	280.34	185.89
Grain crops	2,327.41	27.28	115.00	2.28	10,798.17	117.14	147.74	181.88
Cereals	2,257.41	23.88	15.00	0.25	10,798.17	117.14	47.74	1.88
Teff	202.26	2.00			193.06	1.74		
Barley								
Wheat								
Maize								
Sorghum	2,055.14	21.86	15.00	0.25	10,516.10	115.40	47.74	3.00
Finger millet								
Oats / 'Aji'								
Rice								
Pulse								
Horse / Faba beans								
Field Peas								
Haricot beans								
Chick peas								
Lentils								
Vetch / Grass peas								
Soya beans								
Fenugreek								
Gibbo							100.00	100.00
Oilseeds	70.00	3.40	100.00	2.00				
Niger seed/neugl								
Linseed								
Groundnuts								
Safflower							100.00	100.00
Sesame	70.00	3.40	100.00	2.00				
Rape seed								
Vegetables	43.96	1.23	58.53	11.60	297.60	48.00	58.53	1.95
Lettuce								
Head cabbage								
Ethiopian cabbage								
Tomatoes	41.46	1.15	56.03	11.60			58.53	1.05
Green peppers								
Red peppers	2.50	0.08	2.50	0.08		48.00		
Swiss chard								
Root crops	50.30	1.00	57.59	4.50			73.95	1.00
Beetroot								
Carrot								
Onion	50.30	1.00	57.59	4.50			73.95	1.00
Potatoes								
Garlic								
Taro 'Godere'								
Sweet potatoes			4.95	2.25				
Other Temporary crops								
Permanent crops								
Fruit crops								
Avocado								
Bananas								
Guava								
Lemons								
Mangoes								
Oranges								
Papayas								
Pineapples								
Cash crops								
Chai								
Coffee								
Tea								
Hops / 'Gesho'								
Enset								
Sugar cane								
Cotton								
Other Permanent crops								

Table X2 Contd

Crop Type	Meher Season						Others	
	Chemicals				Herbicides		Others	
	Pesticide		Fungicides		Area in Hec	Amount in Qts	Area in Hec	Amount in Qts
	Area in Hec	Amount in Qts	Area in Hec	Amount in Qts			192.25	4.59
Total	27,891.89	4,100.73						
Grain crops								
Cereals								
Taft								
Barley								
Wheat								
Maise								
Sorghum								
Finger millet								
Oats / 'Ajl'								
Rice								
Pulse								
Horse / Faba beans								
Field Peas								
Haricot beans								
Chick peas								
Lentils								
Vetch / Grass peas								
Soya beans								
Fenugreek								
Gobs								
Oilseeds								
Niger seed/must'								
Linseed								
Groundnuts								
Safflower								
Sesame								
Rape seed								
Vegetables								
Lettuce								
Head cabbage								
Ethiopian cabbage								
Tomatoes								
Green peppers								
Red peppers								
Swiss chard								
Root crops								
Beetroot								
Carrot								
Onion								
Potatoes								
Garlic								
Taro 'Godeni'								
Sweet potatoes								
Other Temporary crops								
Permanent crops	27,891.89	4,100.73					192.25	4.59
Fruit crops								
Avocado								
Bananas								
Gulvis								
Lemons								
Mangoes								
Oranges								
Papayas								
Pineapples								
Cash crops	27,891.89	4,100.73					192.25	4.59
Chat								
Coffee								
Tea								
Hops / 'Gesho'								
Enset								
Sugar cane								
Cotton	27,891.89	4,100.73					192.25	4.59
Other Permanent crops								

Table 3.3 Contd

Crops Region	Meher Season							
	Chemicals							
	Pesticide		Fungicides		Herbicides		Others	
Crop Type	Area in Hec	Amount in Qts	Area in Hec	Amount in Qts	Area in Hec	Amount in Qts	Area in Hec	Amount in Qts
Total	6,548.60	401.94	1,769.98	396.72	22,945.23	21,215.74	675.93	2,841.82
Grain crops	4,620.16	317.73	1,182.56	294.38	22,857.82	20,861.13	536.48	191.09
Cereals	3,869.26	164.29	1,182.56	294.38	22,919.06	18,769.27	295.58	88.58
Teff	149.89	1.29	-	-	488.64	6.85	26.72	6.00
Barley	-	-	-	-	-	-	1.50	-
Wheat	119.92	2.50	1,137.49	294.20	1,134.21	6,443.67	6.76	-
Maize	3,318.45	157.10	45.07	0.10	4,678.20	11,971.41	272.56	62.50
Sorghum	281.00	3.40	-	-	15,656.93	287.22	-	-
Finger millet	-	-	-	-	51.87	0.13	-	-
Oats / 'Aja'	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	-	-
Pulse	251.43	98.99	-	-	469.97	1,464.71	43.93	32.56
Horse / Faba beans	-	-	-	-	-	-	0.65	1.00
Field Peas	-	-	-	-	-	-	-	-
Haricot beans	-	-	-	-	96.00	685.19	-	-
Chick peas	251.43	98.99	-	-	103.97	440.00	43.28	31.50
Lentils	-	-	-	-	-	-	-	-
Vetch / Grass peas	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	270.00	279.52	-	-
Fenugreek	-	-	-	-	-	-	-	-
Gibbo	-	-	-	-	-	-	-	-
Oilseeds	499.47	54.45	-	-	377.79	747.15	-	-
Niger seed/neugl	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-
Sesame	395.42	1.05	-	-	271.74	641.10	-	-
Rape seed	104.05	53.40	-	-	106.05	106.05	-	-
Vegetables	392.32	57.35	355.85	150.55	87.14	349.56	28.92	6.11
Lettuce	-	-	-	-	-	-	-	-
Head cabbage	2.78	0.06	-	-	-	-	10.28	0.07
Ethiopian cabbage	-	-	-	-	-	-	-	-
Tomatoes	296.56	9.74	266.86	9.20	-	-	-	-
Green peppers	-	-	-	-	-	-	-	-
Red peppers	92.97	47.55	88.97	141.35	87.14	349.56	-	-
Swiss chard	-	-	-	-	-	-	18.66	0.05
Root crops	150.48	8.25	121.73	5.69	-	-	38.17	1.03
Beetroot	-	-	-	-	-	-	-	-
Carrot	-	-	-	-	-	-	-	-
Onion	150.48	8.25	121.73	5.69	-	-	0.74	-
Potatoes	-	-	-	-	-	-	-	-
Garlic	-	-	-	-	-	-	-	-
Taro 'Godere'	-	-	-	-	-	-	-	-
Sweet potatoes	-	-	-	-	-	-	-	-
Other Temporary crops	62.93	0.93	15.26	1.35	-	-	123.62	6.88
Permanent crops	1,322.71	17.72	94.58	4.77	0.27	0.85	144.83	2,738.80
Fruit crops	169.40	2.03	76.70	0.98	-	-	68.46	1,369.20
Avocado	-	-	-	-	-	-	-	-
Bananas	-	-	-	-	-	-	-	-
Guava	-	-	-	-	-	-	-	-
Lemons	-	-	-	-	-	-	-	-
Mangoes	162.60	1.63	8.24	0.10	-	-	-	-
Oranges	6.81	0.40	68.46	0.88	-	-	68.46	1,369.20
Papayas	-	-	-	-	-	-	-	-
Pineapples	-	-	-	-	-	-	-	-
Cash crops	1,153.31	15.69	-	-	-	-	-	-
Chia	-	-	-	-	-	-	-	-
Coffee	9.06	0.01	-	-	-	-	-	-
Tea	-	-	-	-	-	-	-	-
Hops / 'Gesho'	-	-	-	-	-	-	-	-
Enset	-	-	-	-	-	-	-	-
Sugar cane	-	-	-	-	-	-	-	-
Cotton	1,144.24	15.68	-	-	6.27	6.85	78.37	1,369.60
Other Permanent crops	-	-	17.88	3.79	-	-	-	-

Table 3.4 Contd

Crops/Region	Meher Season							
	Chemicals				Others			
	Pesticide		Fungicides		Herbicides		Others	
Crop Type	Area in Hec	Amount in Qts	Area in Hec	Amount in Qts	Area in Hec	Amount in Qts	Area in Hec	Amount in Qts
Total	18,792.41	953.85	30,634.82	1,049.60	54,094.93	8,076.54	6,393.53	42,834.17
Grain crops	8,264.92	179.53	23,525.41	438.24	38,293.21	1,055.83	2,892.61	17,109.37
Cereals	4,985.82	141.82	22,858.94	413.24	36,505.33	913.61	2,824.81	17,027.85
Tar	-	-	-	-	1,414.93	12.43	-	-
Barley	-	-	50.00	0.50	742.32	5.80	-	-
Wheat	739.21	5.48	22,438.99	399.06	23,825.01	514.64	2,260.59	16,664.10
Maize	4,167.72	119.52	353.05	13.66	10,058.95	377.91	514.02	363.75
Sorghum	29.00	0.04	16.00	0.01	454.12	2.83	-	-
Finger millet	-	-	-	-	-	-	-	-
Oats / 'Aji'	-	-	-	-	-	-	-	-
Rice	50.00	16.78	-	-	-	-	50.00	-
Pulse	884.34	26.72	447.37	22.12	1,289.46	135.84	8.00	79.72
Horse / Faba beans	453.68	4.08	-	-	325.00	90.41	-	-
Field Peas	8.00	8.46	8.00	19.23	-	-	8.00	79.72
Haricot beans	363.66	6.03	394.66	2.73	581.18	5.92	-	-
Chick peas	59.00	8.15	24.71	0.08	40.71	30.45	-	-
Lentils	-	-	-	-	-	-	-	-
Vetch / Grass peas	-	-	-	-	-	-	-	-
Soya beans	-	-	20.00	0.08	342.57	9.06	-	-
Fenugreek	-	-	-	-	-	-	-	-
Gibbo	-	-	-	-	-	-	-	-
Oilseeds	394.87	1.99	229.00	0.88	498.42	6.38	60.00	1.80
Niger seed/niugu'	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	99.00	1.27	60.00	1.80
Rape seed	394.87	1.99	229.00	0.88	399.42	5.11	-	-
Vegetables	2,823.85	189.26	2,108.56	121.62	147.78	0.99	250.93	289.82
Lettuce	159.66	1.06	-	-	-	-	39.48	0.21
Head cabbage	480.71	23.23	2.60	0.19	1.00	0.01	10.54	14.47
Ethiopian cabbage	-	0.62	-	-	-	-	-	-
Tomatoes	1,834.02	156.41	1,979.59	110.90	1.90	0.01	155.91	159.37
Green peppers	72.85	7.23	56.37	5.52	-	-	45.00	115.78
Red peppers	70.00	0.73	70.00	5.01	144.88	0.97	-	-
Swiss chard	-	-	-	-	-	-	-	-
Root crops	2,074.84	186.93	1,928.24	229.12	-	-	83.90	67.22
Beetroot	-	-	-	-	-	-	0.30	0.01
Carrot	-	-	-	-	-	-	-	-
Onion	2,023.06	181.77	1,928.24	229.12	-	-	83.60	67.21
Potatoes	51.78	5.16	-	-	-	-	-	-
Garlic	-	-	-	-	-	-	-	-
Taro 'Golems'	-	-	-	-	-	-	-	-
Sweet potatoes	-	-	-	-	-	-	-	-
Other Temporary crops	650.92	50.18	598.08	41.15	-	-	388.24	520.10
Permanent crops	8,088.37	356.95	2,474.53	221.47	15,653.94	7,019.72	2,777.85	24,847.66
Fruit crops	1,178.20	76.71	387.18	47.56	359.36	41.77	818.71	14,422.34
Avocado	1.00	0.03	1.00	0.05	-	-	-	-
Bananas	-	-	52.36	7.02	-	-	-	-
Guava	55.00	6.98	55.00	0.91	-	-	-	-
Lemons	28.50	4.01	28.50	1.86	28.50	2.70	-	-
Mangoes	3.50	0.27	-	-	10.00	0.07	-	-
Oranges	956.99	61.80	64.00	7.04	320.86	39.00	802.41	14,383.22
Papayas	133.21	1.62	186.32	30.67	-	-	16.30	39.12
Pineapples	-	-	-	-	-	-	-	-
Cash crops	4,827.40	208.72	-	-	14,533.78	6,954.15	77.20	275.69
Chat	-	-	-	-	-	-	-	-
Coffee	-	-	-	-	6,728.41	183.13	77.20	275.69
Tea	-	-	-	-	-	-	-	-
Hops / 'Gesho'	-	-	-	-	-	-	-	-
Enset	-	-	-	-	-	-	-	-
Sugar cane	4,827.40	208.72	-	-	7,805.37	6,771.02	-	-
Cotton	-	-	-	-	-	-	-	-
Other Permanent crops	2,083.37	71.52	2,087.35	173.91	760.80	23.80	1,881.94	10,149.43

Table 3.5 Contd

Crop Type	Major Season							
	Pesticide		Chemicals				Others	
	Area in Hec	Amount in Qts	Fungicides		Herbicides		Area in Hec	Amount in Qts
Total.....	7.20	0.11	5.54	5.15				
Grain crops.....	6.50	0.09						
Cereals.....	6.50	0.09						
Teff.....								
Barley.....								
Wheat.....								
Maize.....	6.50	0.09						
Sorghum.....								
Finger millet.....								
Oats / 'Aja'.....								
Rice.....								
Pulse.....								
Horse / Faba beans.....								
Field Peas.....								
Haricot beans.....								
Chick peas.....								
Lentils.....								
Vetch / Grass peas.....								
Soya beans.....								
Fenugreek.....								
Gibfo.....								
Oilseeds.....								
Niger seed/neugl.....								
Linseed.....								
Groundnuts.....								
Safflower.....								
Sesame.....								
Rape seed.....								
Vegetables.....	0.70	0.02						
Lettuce.....								
Head cabbage.....	0.70	0.02						
Ethiopian cabbage.....								
Tomatoes.....								
Green peppers.....								
Red peppers.....								
Swiss chard.....								
Root crops.....								
Beetroot.....								
Carrot.....								
Onion.....								
Potatoes.....								
Garlic.....								
Taro 'Godeni'.....								
Sweet potatoes.....			5.54	5.15				
Other Temporary crops.....								
Permanent crops.....								
Fruit crops.....								
Avocado.....								
Bananas.....								
Guava.....								
Lemons.....								
Mangoes.....								
Oranges.....								
Papayas.....								
Pineapples.....								
Cash crops.....								
Chat.....								
Coffee.....								
Tea.....								
Hops / 'Gesho'.....								
Enset.....								
Sugar cane.....								
Cotton.....								
Other Permanent crops.....								

Table 3.4 Contd.

Crop Type	Meher Season							
	Chemicals				Others			
	Pesticide		Fungicides		Herbicides		Others	
Area in Hec	Amount in Qts	Area in Hec	Amount in Qts	Area in Hec	Amount in Qts	Area in Hec	Amount in Qts	
Total	1,782.47	21.14	146.58	2.10	1,813.83	57.80	163.48	34.77
Grain crops	1,243.38	18.79	-	-	1,813.83	57.80	124.48	25.82
Cereals	27.18	5.29	-	-	1,772.58	57.48	97.88	24.47
Teff	-	-	-	-	-	-	-	-
Berley	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-
Maize	4.00	0.04	-	-	1,590.90	57.43	97.88	24.47
Sorghum	23.18	0.25	-	-	181.68	0.05	-	-
Finger millet	-	-	-	-	-	-	-	-
Oats / 'Aji'	-	-	-	-	-	-	-	-
Rice	-	-	-	-	-	-	26.60	0.55
Pulse	-	-	-	-	-	-	-	-
Horse / Faba beans	-	-	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-	-	-
Haricot beans	-	-	-	-	-	-	-	-
Chick peas	-	-	-	-	-	-	-	-
Lentils	-	-	-	-	-	-	-	-
Vetch / Grass peas	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	26.60	0.55
Fenugreek	-	-	-	-	-	-	-	-
Gibbs	-	-	-	-	-	-	-	-
Oilseeds	1,216.20	19.50	-	-	41.05	0.12	-	-
Niger seed/mung'	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-
Sesame	1,216.20	19.50	-	-	41.05	0.12	-	-
Rape seed	-	-	-	-	-	-	-	-
Vegetables	-	-	-	-	-	-	-	-
Lettuce	-	-	-	-	-	-	-	-
Head cabbage	-	-	-	-	-	-	-	-
Ethiopian cabbage	-	-	-	-	-	-	-	-
Tomatoes	-	-	-	-	-	-	-	-
Green peppers	-	-	-	-	-	-	-	-
Red peppers	-	-	-	-	-	-	-	-
Swiss chard	-	-	-	-	-	-	-	-
Root crops	-	-	-	-	-	-	-	-
Beetroot	-	-	-	-	-	-	-	-
Carrot	-	-	-	-	-	-	-	-
Onion	-	-	-	-	-	-	-	-
Potatoes	-	-	-	-	-	-	-	-
Garlic	-	-	-	-	-	-	-	-
Taro 'Gedere'	-	-	-	-	-	-	-	-
Sweet potatoes	-	-	-	-	-	-	-	-
Other Temporary crops	459.17	1.35	140.00	2.10	-	-	39.00	0.75
Permanent crops	-	-	-	-	-	-	-	-
Fruit crops	-	-	-	-	-	-	-	-
Avocado	-	-	-	-	-	-	-	-
Bananas	-	-	-	-	-	-	-	-
Guaia	-	-	-	-	-	-	-	-
Lemons	-	-	-	-	-	-	-	-
Mangoes	-	-	-	-	-	-	-	-
Oranges	-	-	-	-	-	-	-	-
Papayas	-	-	-	-	-	-	-	-
Pineapples	-	-	-	-	-	-	-	-
Cash crops	-	-	-	-	-	-	-	-
Chat	-	-	-	-	-	-	-	-
Coffee	-	-	-	-	-	-	-	-
Tea	-	-	-	-	-	-	-	-
Hops / 'Gesho'	-	-	-	-	-	-	-	-
Enset	-	-	-	-	-	-	-	-
Sugar cane	-	-	-	-	-	-	-	-
Cotton	-	-	-	-	-	-	-	-
Other Permanent crops	-	-	-	-	-	-	-	-

Table 3.7 Contd

Crop Type	Moher Season							
	Pesticide		Chemicals				Others	
	Area in Hec	Amount in Qto	Fungicides	Area in Hec	Amount in Qto	Herbicides	Area in Hec	Amount in Qto
Total	15,813.99	745.86	5,451.13	29.30	13,348.81	432.20	1,829.89	1,943.94
Grain crops	7,299.13	271.88	5,045.54	24.74	12,833.73	212.89	344.82	191.38
Cereals	5,275.70	260.91	4,809.51	21.98	12,782.82	212.49	119.39	79.54
Teff	0.25	-	303.00	3.01	2,177.48	15.29	38.65	30.45
Barley	12.38	0.25	-	-	229.01	1.87	-	-
Wheat	281.20	1.76	4,223.22	18.05	5,121.97	31.11	28.65	42.99
Maize	4,134.71	241.73	283.29	0.92	4,915.92	162.97	43.00	8.15
Sorghum	300.00	3.00	-	-	306.54	1.28	-	-
Finger millet	-	-	-	-	-	-	-	-
Oats / 'Aja'	-	-	-	-	-	-	-	-
Rice	547.16	14.17	-	-	-	-	-	-
Pulse	745.74	6.65	236.03	2.78	19.99	8.15	432.12	111.64
Horse / Faba beans	18.56	0.25	-	-	-	-	-	-
Field Peas	5.28	0.47	-	-	-	-	-	-
Hanicot beans	-	-	233.35	2.70	10.00	0.15	-	-
Chick peas	721.90	5.93	-	-	-	-	432.12	111.64
Lentils	-	-	2.65	0.06	-	-	-	-
Vetch / Grass peas	-	-	-	-	-	-	-	-
Soya beans	-	-	-	-	-	-	-	-
Fenugreek	-	-	-	-	-	-	-	-
Gibbo	-	-	-	-	-	-	-	-
Oilseeds	1,277.69	4.32	-	-	128.80	0.16	2.50	8.14
Niger seed/neugl	-	-	-	-	-	-	-	-
Linseed	-	-	-	-	-	-	-	-
Groundnuts	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-
Sesame	1,277.69	4.32	-	-	120.80	0.16	2.50	8.14
Rape seed	-	-	-	-	-	-	-	-
Vegetables	869.14	51.67	149.38	1.79	92.09	0.73	192.79	6.90
Lettuce	-	-	-	-	-	-	-	-
Head cabbage	83.68	20.70	-	-	-	-	3.04	-
Ethiopian cabbage	-	0.35	-	-	-	-	-	-
Tomatoes	427.22	13.89	-	-	8.19	0.50	-	-
Green peppers	-	-	-	-	-	-	143.25	8.80
Red peppers	323.42	16.73	149.38	1.79	45.90	0.23	8.50	0.20
Swiss chard	-	-	-	-	-	-	-	-
Root crops	182.55	2.82	238.16	2.54	24.75	1.00	97.30	574.74
Beetroot	-	-	-	-	-	-	-	-
Carrot	-	-	-	-	-	-	-	-
Onion	109.67	1.64	57.02	0.14	8.19	0.50	28.65	1.74
Potatoes	72.88	1.18	181.14	2.40	18.56	0.50	28.65	573.00
Garlic	-	-	-	-	-	-	-	-
Taro 'Onfere'	-	-	-	-	-	-	-	-
Sweet potatoes	-	-	-	-	-	-	-	-
Other Temporary crops	111.01	1.30	18.05	0.28	-	-	-	-
Permanent crops	7,352.16	417.99	-	-	2,438.85	207.67	865.88	1,171.54
Fruit crops	-	-	-	-	46.00	2.58	-	-
Avocado	-	-	-	-	-	-	-	-
Bananas	-	-	-	-	46.00	2.58	-	-
Guava	-	-	-	-	-	-	-	-
Lemons	-	-	-	-	-	-	-	-
Mangoes	-	-	-	-	-	-	-	-
Oranges	-	-	-	-	-	-	-	-
Papayas	-	-	-	-	-	-	-	-
Pineapples	-	-	-	-	-	-	-	-
Cash crops	6,801.63	415.87	-	-	1,962.05	84.15	865.88	1,171.54
Chat	-	-	-	-	1,962.05	84.15	865.88	1,171.54
Coffee	34.82	0.35	-	-	-	-	-	-
Tea	-	-	-	-	-	-	-	-
Hops / 'Gesho'	-	-	-	-	-	-	-	-
Enset	-	-	-	-	-	-	-	-
Sugar cane	-	-	-	-	-	-	-	-
Cotton	-	415.52	-	-	430.00	126.94	-	-
Other Permanent crops	550.53	2.12	-	-	-	-	-	-

Table 3.8. Contd.

Cerealia Region	Mehar Season						Others	
	Chemicals							
	Pesticides		Fungicides		Herbicides		Area in Hec	Amount in Qts
Crop Type	Area in Hec	Amount in Qts	Area in Hec	Amount in Qts	Area in Hec	Amount in Qts	Area in Hec	Amount in Qts
Total	4,756.44	842.99	430.33	23.65	68.94	0.87		
Grain crops	506.23	32.15	202.59	1.85				
Cereals	125.55	12.04						
Teff								
Barley								
Wheat								
Maize								
Sorghum								
Finger millet								
Oats / 'Aji'								
Rice	120.55	12.04						
Pulse								
Horse / Faba beans								
Field Peas								
Haricot beans								
Chick peas								
Lentils								
Vetch / Grass peas								
Soya beans								
Fenugreek								
Gibbo								
Oilseeds	388.74	20.06	202.59	1.85				
Niger seed/teff								
Linseed								
Groundnuts								
Safflower								
Sesame	388.74	20.06	202.59	1.85				
Rape seed								
Vegetables								
Lettuce								
Head cabbage								
Ethiopian cabbage								
Tomatoes								
Green peppers								
Red peppers								
Swiss chard								
Root crops								
Beetroot								
Carrot								
Onion								
Potatoes								
Garlic								
Taro 'Gidere'								
Sweet potatoes								
Other Temporary crops...								
Permanent crops	4,241.15	810.59	227.74	21.80	68.94	0.87		
Fruit crops								
Avocado								
Bananas								
Guava								
Lemons								
Mangoes								
Oranges								
Papayas								
Pineapples								
Cash crops	4,241.15	810.59	227.74	21.80	68.94	0.87		
Chat								
Coffee					68.94	0.87		
Tea								
Hops / 'Gesho'								
Enset								
Sugar cane								
Cotton	4,241.15	810.59	227.74	21.80				
Other Permanent crops...								

Table 3.9 - Contd

Harari Region	Meher Season								
	Crop Type	Pesticide		Chemicals				Others	
		Area in Hec	Amount in Qts	Fungicides	Area in Hec	Amount in Qts	Herbicides	Area in Hec	Amount in Qts
Total.....									
Grain crops.....									
Cereals.....									
Teff.....									
Barley.....									
Wheat.....									
Maize.....									
Sorghum.....									
Finger millet.....									
Oats / 'Aja'.....									
Rice.....									
Pulse.....									
Horse / Faba beans.....									
Field Peas.....									
Haricot beans.....									
Chick peas.....									
Lentils.....									
Vetch / Grass peas.....									
Soya beans.....									
Fenugreek.....									
Gibfo.....									
Oilseeds.....									
Niger seed/noug.....									
Linseed.....									
Groundnuts.....									
Safflower.....									
Sesame.....									
Rape seed.....									
Vegetables.....									
Lettuce.....									
Head cabbage.....									
Ethiopian cabbage.....									
Tomatoes.....									
Green peppers.....									
Red peppers.....									
Swiss chard.....									
Root crops.....									
Beetroot.....									
Carrot.....									
Onion.....									
Potatoes.....									
Garlic.....									
Taro 'Godere'.....									
Sweet potatoes.....									
Other Temporary crops...									
Permanent crops.....									
Fruit crops.....									
Avocado.....									
Bananas.....									
Guava.....									
Lemons.....									
Mangoes.....									
Oranges.....									
Papayas.....									
Pineapples.....									
Cash crops.....									
Chai.....									
Coffee.....									
Tea.....									
Hops / 'Gesho'.....									
Enset.....									
Sugar cane.....									
Cotton.....									
Other Permanent crops...									

Table 3.10 Contd

Crop Type	Mahey Season							
	Chemicals						Others	
	Pesticide		Fungicides		Herbicides		Area in Hec	Amount in Qts
	Area in Hec	Amount in Qts	Area in Hec	Amount in Qts	Area in Hec	Amount in Qts	Area in Hec	Amount in Qts
Total								136.16
Grain crops								
Cereals								
Teff								
Baobab								
Wheat								
Maize								
Sorghum								
Finger millet								
Oats / 'Aji'								
Rice								
Pulse								
Horse / Faba beans								
Field Peas								
Haricot beans								
Chick peas								
Lentils								
Vetch / Grass peas								
Soya beans								
Fenugreek								
Gibbo								
Oilseeds								
Niger seed/naug'								
Linseed								
Groundnuts								
Safflower								
Sesame								
Rape seed								
Vegetables								
Lettuce								
Head cabbage								
Ethiopian cabbage								
Tomatoes								
Green peppers								
Red peppers								
Swiss chard								
Root crops								
Beetroot								
Carrot								
Onion								
Potatoes								
Garlic								
Taro 'Godeni'								
Sweet potatoes								
Other Temporary crops...								
Permanent crops								136.16
Fruit crops								136.16
Avocado								
Bananas								
Guava								
Lemons								
Mangoes								
Oranges								85.10
Papaya							4.26	51.06
Pineapples								
Cash crops								
Chia								
Coffee								
Tea								
Hops / 'Geshi'								
Erset								
Sugar cane								
Cotton								
Other Permanent crops...								

Appendix I. Estimation procedures

The following formulae are used for estimation.

1. Estimating the total (Y or \bar{y})

$$Y = \sum_{i=1}^n w_i y_i$$

in which

$$w_i = \frac{M_i}{M}$$

is the weight

where

n = Represents region

w_i = Total number of farms selected in the region

M_i = Measure of size of i^{th} region which is the total area in that region or
area selected with last

M = Total area for farms in b

Appendix I

Estimation Procedures of Totals, Ratios

and Sampling Error

2. Estimation for ratio

$$r = \frac{\sum_{i=1}^n w_i y_i}{\sum_{i=1}^n w_i x_i}$$

in which $w_i = \frac{M_i}{M}$

is the weight

where

n = Represents region

M_i = Measure of size for i^{th} region which is total number of farms having
livestock in that region from the survey.

w_i = Total number of farms with livestock reported in that region

M = Total for the variable in i^{th} farm i^{th} region

Appendix I Estimation procedure

The following formulas are used for estimation.

1. Estimating the total (For crop)

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

In which

$$w_{hi} = \frac{M_h}{m_{hi} n_h}$$

Is the weight

Where

h = Represents region

n_h = Total number of farms covered in the region

M_h = Measure of size of h^{th} region which is the total area in that region for those selected with less than 1 probability.

M_{hi} = Total area for farm i in h^{th} region

y_{hi} = Total for the variable in i^{th} farm h^{th} region

2. Estimation for livestock

$$\hat{Y}_h = \sum w_{hi} y_{hi}$$

In which $w_{hi} = \frac{N_h}{n_h}$

Is the weight

Where

h = Represents region

N_h = Measure of size for h^{th} region which is total number of farms having livestock in that region from the frame.

n_h = Total number of farms with livestock covered in that region

y_{hi} = total for the variable in i^{th} farm h^{th} region

3. Estimating sampling variance

Sampling variance & estimate of stratum total are estimated by the

Following formula

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

4. Estimating coefficient of variation

Coefficient of variation (CV) of estimate of region total is given

$$CV(\hat{Y}_h) = \sqrt{\frac{\text{var}(\hat{Y}_h)}{\hat{Y}_h^2}} \times 100\%$$

Central Oklahoma State
Large and medium size businesses from sample base
1964-1965 (Table 2.5)

CT-Paper 200/1

Part 1. Identification Procedures

1	2	3
Region	Size	Market

1	2	3
Type of Industry	1-5	6-10

Part 2. Cross-Industry and Geographic

1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10

1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10

Appendix II

Questionnaires

Central Statistical Agency
Large and Medium Scale Commercial Farm Sample Survey
2010/11 (2003 E.C)

CF-Form 2003/1

Part 1. Identification Particulars

1	2	3	4	5	6	7	8
Region	Zone	Wereda	Farm name	Kebele	Farm Tenure State = 1 Private= 2 Coops= 3 Other= 4	Season Meher=1 Belg =2	Type of Holding Crop only = 1 Livestock only= 2 Both 1&2 = 3

Part 2 :- Crop land area and Quantity production of Major crops 2010/11 (2003 E.C)

1	2	3	4	5	6	7	8	9	10	
Sr. No	Crop Type	Code	Cropped Area		Production In Quintals	Yield (Qts/Ha)	Crop Damage Yes=1 No=2	Is there Crop Damage?		
			From Interview method (In Hectare)	From GPS Reading (In Hectare)				If Yes Reason	Code	Extent of Damage in Percent
1	Sesame	27								
2	Maize	02								
3	Sorghum	06								
4	Soyabens	12								
5	Nueg	25								
6	Sufflower	28								
7	Linsed	23								
8	Ground NBut	24								
9	Coffee	72								

Part 2 :- Crop land area and Quantity production of Major crops 2010/11 (2003 E.C)

1	2	3	4	5	6	7	8	9	10
Sr. No	Crop Type	Code	Cropped Area		Production	Yield (Qts/Ha)	Crop Damage Yes=1 No=2	Is there Crop Damage?	
			From Interview method (In Hectare)	From GPS Reading (In Hectare)	In Quintals			If Yes Reason	Code
10	Sugar cane	76							
11	Teff	07							
12	Barely	01							
13	Wheat	08							
14	oats	04							
15	Rise	05							
16	Faba Beans	13							
17	Haricot Beans	15							
18	Soyabenns	18							
19	Chick pease	11							
20	Lintils	14							
21	Redpeper	38							
22	Foselia/Fajoli	70							
23	orange	47							
24	Banana	42							
25	Apple	113							
26	Grapes	43							
27	Others								
28	Others								

