

FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
CENTRAL STATISTICAL

Crop production Forecast Sample Survey, 2019/20 (2012 E.C)

Conducted From September 12 to October 25/2019



**REPORT ON AREA AND CROP PRODUCTION FORECAST FOR
MAJOR CROPS**

(For private holdings 2019/20 (2012 E.C), Meher Season)

ADDIS ABABA
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STATISTICAL BULLETIN

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CHAPTER I

BACKGROUND

1.1 Introduction

In a country with dominating agrarian economy like Ethiopia, alleviating food security is one of the most important objectives to be attained by the agriculture system. Though, the agriculture system in Ethiopia is dominated by rain fed agriculture, where the performance of the sector is highly dependent on the timely onset, duration, amount and distribution of rainfall that makes the sector highly vulnerable to drought and other natural calamities.

Thus, in Ethiopia, assessing total food supplies and providing timely early warning signals to the emerging difficulties due to drought and other natural calamities are and remain to be the primary objectives of the efforts to be made annually by the government and the concerned stakeholders. Towards this end, many factors need to be taken into consideration. Among these factors, obtaining reliable and timely pre-harvest forecast estimates of food crop production is paramount importance. Hence, compiling reliable, accurate and timely quantitative crop production forecast estimates for users should get prior consideration. So that the government and the concerned stakeholders could use the estimates to plan in advance and take all the necessary and appropriate measures in administering exports or imports, management of stocks and distribution of food to deficit regions, regulation of price control at surplus or deficit harvest, among others.

In agricultural statistics the term "forecast" is used to indicate qualitative or quantitative information compiled and released before harvest. It differs from an "estimate" which is always quantitative and compiled during harvest time or afterwards.

A forecast of crop production can, therefore, be defined as a statement of the most probable production of crop, which is to be obtained (expected) from the coming harvest, based on reasonable expectations of the crop growing conditions that prevail from sowing till the time of harvest.

Accordingly, the 2019/20 (2012 E.C.), Crop Production Forecast estimates are based on data collected from peasant holders using scientifically accepted probability sampling methodology subject to the conditions and expectations for the coming harvest at the time of data collection, that is, from 11 September through 25 October 2019 (i.e. from Meskerem 1 to Tikimt 15, 2012 E.C.). Here, it should be noted that the period of data collection on condition factor was

extended till mid Tikimt as opposed to end of Meskerm. This is due to the fact that delaying the period of data collection particularly the data collection on condition factor by few weeks is believed to give a better picture of the coming harvest.

1.2 Major stakeholders involved in providing data on "Condition Factor" for the Annual Crop Production Forecast Survey.

Years have passed, since, the Central Statistics Agency (CSA) had increased the number of stakeholders data on condition factor collected from one to five, that used to be only one prior to the year 2005/06 (1998 E.C.), with the objective to keep up and improve the data quality in terms of reliability and accuracy. Since then, the Annual Crop Production Forecast survey conducted included the following stakeholders as ultimate statistical unit on collecting "condition factors".

- a) **Sampled Households:** - Each holder who currently operates on grain crop production and found within the sampled households in the selected enumeration area was interviewed to state the expected percentage change on crop yield compared to that of last year's. These holders who are knowledgeable with long year's accumulated and rich practical experience are believed to be the major source for accurate and reliable data on condition factors with regard to their specific crops they planted.
- b) **Development Agents (DAs):-** Development Agents of Regional Agriculture and Rural Development Bureaus are professionals assigned to each peasant associations. Nowadays, most of the development agents who are assigned to one or group of peasant associations were trained to advice and provide technical assistance to farmers on the use of modern or improved farm management practices in order to attain enhanced productivity. While performing their duties the development agents could easily identify the major crops grown, the timely onset and withdrawals as well as the distribution and amount of rainfall which is important for crop production activity in their respective area. Therefore, the development agents who are informative by the very nature of their job are believed to be another source of agricultural information including "condition factors".

- c) **Chairperson of the Peasant Association (PA):-** Chairpersons of the peasant association in each selected enumeration area were interviewed to state the expected percentage change of each grain crop yield compared to that of last year's. These individuals are assumed to be more knowledgeable than others about their respective areas due to their duties and responsibilities that would inform them about the supply and magnitude of farm input distribution and weather conditions. Therefore, the peasant association chairpersons are believed to be one of the sources of data on "condition factors".
- d) **Community Leaders:** - Five farmer's group leaders in each selected enumeration area were interviewed to state and agree on the expected percentage change of each grain crop yield compared to that of last year's. These group leaders are very close to farmers and are believed to be one of the sources of data on "condition factors".
- e) **Observations from highly skilled professionals:** - Since the year 2004/05 (1997 E.C.) CSA has been working in close collaboration with FAO Food Supply and Crop Assessment Mission to improve its crop forecast survey results. Hence, CSA assigned seven senior professionals to collect data on condition factors and technically assist in the overall field activities of the FAO Crop Assessment Mission teams for three weeks time. Therefore, besides their technical assistance to the mission, the assigned professionals have assessed the conditions of crop productivity with FAO Mission Team and come up with condition factors that reflected the impact of the onset of the late rainfall on grain crops.

1.3 Objectives of the Crop Production Forecast Sample Survey

The objective of the 2019/20 (2012 E.C.), Crop Production Forecast Sample Survey is to produce basic quantitative information on area and expected production of major food crops. This information could be used as an earlier indicator to warn policy makers and planners about the emerging difficulties that result from surplus or deficit crop production in the coming main season harvest. Therefore, timely crop production forecast estimates made on the quantity of the expected production of the 2019/20 (2012 E.C.) Meher (Main) season crops prior to their harvest are used as a primary input for policy preparation and implementation of timely

measures such as administering exports or imports, management of stocks and distribution of food to deficit regions, regulation of prices at the time of surplus or deficits, ...etc. Moreover, quantitative data on crop production forecast will be used as input for estimating Gross Domestic Product (GDP).

CHAPTER II

2.1 Survey Methodology, Data Collection and Processing

2.1.1 Coverage

The 2019/20 (2012 E.C.) annual Crop Production Forecast Sample Survey covered the entire rural parts of the country except Afar, Somali and Gambella Regions.

To be covered by the survey, a total of 2,815 enumeration areas (EAs) were selected. However, due to various reasons that were beyond control, 90 EAs could not be covered. Thus, all in all the survey succeeded to cover 2,725 EAs (96.80%) throughout the country. The Crop Production Forecast Sample survey was conducted on the basis of 20 agricultural households selected from each EA. Regarding the ultimate sampling units, it was intended to cover a total of 56,300 agricultural households, however, 54,500 (96.80%) were actually covered by the survey.

2.1.2 Sampling Frame

The list containing EAs of all regions and their households obtained from the 4th round cartographic census frame was used as the sampling frame in order to select the primary sampling units (EAs). Consequently, all sample EAs were selected from this frame based on the design proposed for the survey. The second stage sampling units, households, were selected from a fresh list of households that were prepared for each EA at the beginning of the survey.

2.1.3 Sample Design

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

Each zone/special wereda of the five regions (Tigray, Amhara, Oromia, Benishangul and SNNP) were further stratified into three agro-ecologies (Kolla, Dega and Weyina Dega). Except Harari and Dire Dawa, where each region as a whole is considered to be the domain of estimation, each zone of a region / special wereda was adopted as a stratum for which major

findings of the survey are reported. For detail of the number of strata in each region, see summary table 1 below.

Summary Table 2. 1 Total and covered Zones/Strata by Region

Region	Number of Zones/ Strata	
	Total	Covered
Tigray	6	6
Afar	-	-
Amhara	16	16
Oromiya	20	20
Somalie	-	-
Benishangul Gumuz	4	4
S.N.N.P.R	18	18
Gambela	-	-
Hareri	1	1
Dire Dawa	1	1
Total	66	66

2.1.4 Selection Scheme

Enumeration areas from each stratum were selected systematically using probability proportional to size sampling technique; size being number of households. The sizes for EAs were obtained from the the 4th round cartographic census frame. From the fresh list of households prepared at the beginning of the survey, 20 agricultural households within each sample EA were selected systematically for condition factor and plot area measurement.

Estimation procedure of totals, ratios, sampling error and the measurement of precision of estimates (CV) are given in Appendix-I and II, respectively.

2.2. Field Organization

In order to systematically and efficiently accomplish the data collection activities of the 2019/20 (2012 E.C.), Crop Production Forecast Sample Survey in the field; a comprehensive field organization was put in place. Accordingly, all the technical personnel of CSA, heads of the 21 Statistics Branch Offices as well as field supervisors and enumerators were fully involved in the administration of the survey operations. For conducting the survey, a total of 2,399 (including reserves) field enumerators, were recruited, trained and were assigned in the selected sample EAs. One supervisor was assigned to closely supervise and follow up the

work of three enumerators. Moreover, experts from the CSA's headquarters, and other supporting staff were involved in the survey operations.

All enumerators were equipped with the necessary survey materials and equipment such as questionnaires (for quick reference), instruction manuals, GPS, GPS enabled Tablets, compasses, etc. just before the deployment to their respective enumeration areas (The survey questionnaires are given in Appendix IV).

2.2.1 Training of Field Staff

Before conducting the Crop Production Forecast Sample Survey, it required considerable planning and acquisition of all relevant survey materials. These included the training of personnel, procurement of equipment, designing and printing of questionnaires (for training purpose), as well as enumerators' and supervisors' instruction manuals and converting the paper questionnaire in to electronic questionnaire.

The training program for this survey was carried out in two stages. In the first stage, 145 trainees from the CSA professional staff members were trained for 10 days at Adama Town. Those trained in the first stage carried out similar training for about 762 field supervisors and 2,399 field enumerators for nineteen days at the 21 Statistics Branch Offices located all over the country.

The content of the training document focused on specific and details pertaining to the survey, including detailed classroom instruction on the purpose, terminology, concepts and definitions used in the process of undertaking the survey. Furthermore, the training program comprised field practices i.e. how to correctly complete each questionnaire using computer assisted personal interview (CAPI) method by tablet and undertaking the operations of field area measurement techniques using GPS enabled tablets and GPS equipments.

2.3 Method of Data Collection and Crop Production Forecasting

2.3.1 Method of data Collection

The data collected from the sampled agricultural holders for the crop production forecast estimates consisted of both subjective questions through direct interviews and objective method associated with field measurements. Data were collected objectively by measuring all fields under temporary and permanent crops using GPS enabled tablets. On the other hand, the

expected crop production forecast estimates were calculated from the condition factor data that are collected directly from the sampled holders within household, peasant association chairpersons and development agents. The enumerators were trained to systematically present the questions to the respondents on percentage changes using the local translation and meaning. The enumerators were also trained on how to use comparative associations to represent the concept of percentage changes and fill in the questionnaire.

The estimation procedure of forecast survey has proven to be successful in the past years and also avoided the serious problems in Ethiopia of using many different types of local units of measurements that the farmers could otherwise report on their absolute crop yields. These subjective data on percentage yield change are recorded in to the tablets for each grain crops under investigation.

2.3.2 Method of Crop Production Forecasting

The Crop Production Forecast Sample Survey is based on what could be considered a three-component production "Model". The first component production "model" is the survey's direct expansion estimate of the actual cultivated area (obtained from the objectively measured fields during the September-October field data collection period). The second component production "model" uses last year's 2019/20 (2012 E.C.) Meher (Main season) crop yield estimate obtained from objectively collected crop cuttings results. The third component production "model" is the average "condition factor", which adjusts the previous year's yield data in order to estimate the current year production.

All specific condition factors (such as weather, pest damage ... etc.) affecting the crop growth for the rest of the current season are assumed to be taken into account by the respondent's own subjective assessment through these "condition factors".

2.4 Factors that influence the expected Crop Production

For the holder, to intuitively formulate the future production of his/her crops in the field, there are numerous factors that he/she has to take into account and make assessment subjectively. Besides the meteorological factors, there are a number of other factors that influence production and yield of crops. The major external factors that have negative and positive influence on yield and production are given below:

2.4.1 Factors that have Negative Influence

- Too much rainfall and lodging of the crop,
- Shortage of rainfall,
- Insect (locust), disease and other pests (birds) damage,
- Hail and frost damage,
- Wild and domestic animal damage,
- Shortage of seed,
- Depletion of the soil fertility, and
- Others.

2.4.2 Factors that have Positive Influence

- Favorable weather conditions,
- Improved seed and cultural practices,
- Application of fertilizers,
- Application of pesticides (absence of pests), and
- Others.

2.5 Data Processing

Census and Survey Processing System (CSPro) software was used by data processing experts to design the forms based on the final paper questionnaires obtained from statisticians. Validity checks such as ranges, skips, consistencies were included in the application to maintain the quality of the data. Computer Assisted Personal Interviewing (CAPI) using tablets was used to conduct face-to-face interview. The collected data was then transferred to the supervisor tablet using Bluetooth. Using internet, the supervisor transferred the collected data to the server located at the head office. At the head office, further validity checks were done on each question and consistencies between questions. Errors obtained were sent back to the field for correction. After the corrected data was sent to the head office, further processing was done on the completed questionnaires. The final stage of the data processing was to summarize the data and produce statistical tables. Estimation of the statistical tables was done using CSPro and the tabulation component of IMPS (Integrated Microcomputer Processing System) software.

2.6 Basic Concepts and Definitions

The concepts and definitions used in the survey are described as follows:

Enumeration Area (EA): - Is the survey primary sampling unit classified as located in the rural area of the country which is less than or equal to a Peasant Association's area and usually consists of 150 - 200 households.

Households: - A household may be either;

- a) A one person household, that is a person who makes provision for his own food or other essentials for living without combining with any other person to form part of a multi-person household, or
- b) A multi-person household, that is, a group of two or more persons who live together and make common provision for food or other essentials for living. The persons in the group may pool their incomes and have a common budget more or less. They may be related or unrelated persons, or a combination of both.

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

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

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

Holding:- A holding is all the land and livestock kept which is used wholly or partially for agricultural production and is operated as one administratively manage unit by one person alone, or with others, without regard to title, legal form, size or location. A holding may consist of one or more parcels.

Parcel: - A parcel is a portion of land belonging to the holding, which is any piece of land entirely, surrounded by land, water road, forest, etc., which are not parts of the holding. It may consist of one or more cadastral units, plots or field adjacent to each other.

Field: - A field is defined as any plot of land within a parcel, which can be whole or part of a parcel under the same agricultural practice.

Forecast of Crop Production: - It is an estimation of the future realization of final crop production growing under conditions, which introduce a random variable, which can cause an uncertainty as to what the final production at harvest will be.

CHAPTER III

Highlights on the Major Findings of the Year 2019/20 (2012 E.C.) Crop Production Forecast Survey

3.1 Introduction

It is well known that in addition to grain crops, almost all rural and urban households in south and south western parts of the country, consume root crops, namely potatoes, Sweet potatoes and Taro (Godere) including Enset as staple food to sustain their livelihood for years. Among the crops mentioned above, Enset and Taro (locally called as Godere), due to their unique inherent biological behavior are known to perform well in drought prone areas. Besides their adaptability in areas where the annual rainfall is low to support crop production, the products obtained from these crops were found to be rich in carbohydrates, protein and vitamins.

As a matter of these facts, almost in all rural and urban households in south and south western parts of the country; it is very common to find food such as Kocho and Bulla, which are the products of Enset crop in their daily dish as staple food all the year round i.e. at the time of surplus and/or drought and/or at the time of poor harvest. Considering the importance of these crops in ensuring food security at household level particularly in south and south-western parts of the country, the Central Statistical Agency included the above mentioned crops in its Annual Crop Production Forecast Sample Survey starting from 2008/09 (2001 E.C.). This report is, therefore, the 12th of its type to present quantitative information regarding the above mentioned root crops and summarized for the year 2019/20 (2012 E.C.) Crop Production Forecast Sample Survey.

Thus, in this report an attempt has been made to present crop area statistics and the volume of the expected production of major crops including root crops (i.e. potatoes, sweet potatoes, Taro and Enset crops) only at the country and regional reporting levels. Following are given the discussions on the major findings of the survey results.

3.2 The Prospect of Grain Crops (Cereal, Pulses and Oilseeds) for the Coming 2019/20 (2012 E.C.) Meher Season Harvest

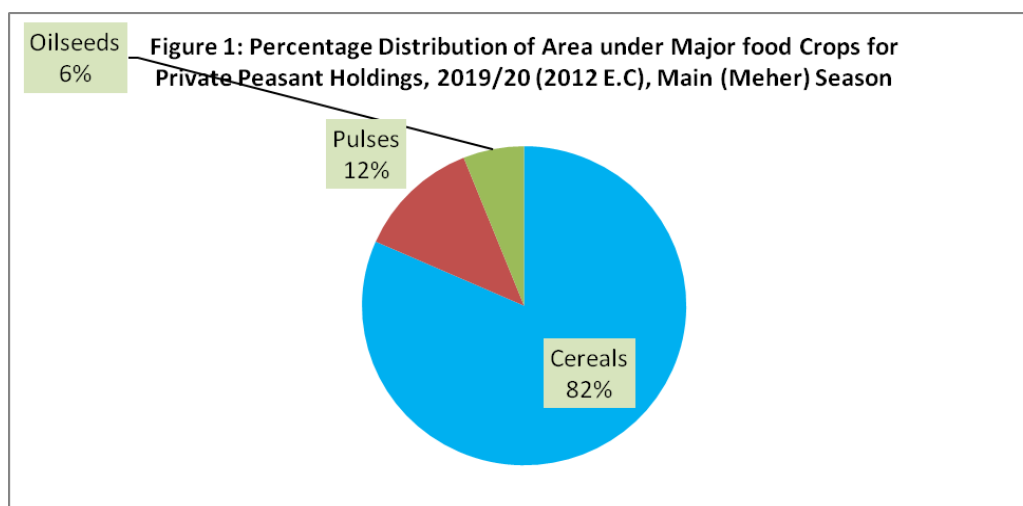
The results of the year 2019/20 (2012 E.C.), Crop Production Forecast Survey indicate that a total land area of about 12,773,911.58 hectares are covered with grain crops i.e. cereals, pulses and oilseeds, from which a total volume of about 329,281,366.98 quintals of grains are expected to be produced from private peasant holdings (See Summary Table III.1).

Summary Table III. 1 Area under Crop and Expected Production of Grain Crops for Private Holdings, 2019/20 (2012 E.C.), Meher Season

<i>Crop Category</i>	<i>Total Area (Hectares)</i>	<i>%</i>	<i>Expected Production (Quintals)</i>	<i>%</i>
Cereals	10,421,645.78	81.59	291,090,949.29	88.40
Pulses	1,576,175.26	12.34	30,027,095.89	9.12
Oilseeds	776,090.54	6.08	8,163,321.81	2.48
Total Grains	12,773,911.58	100.00	329,281,366.98	100.00

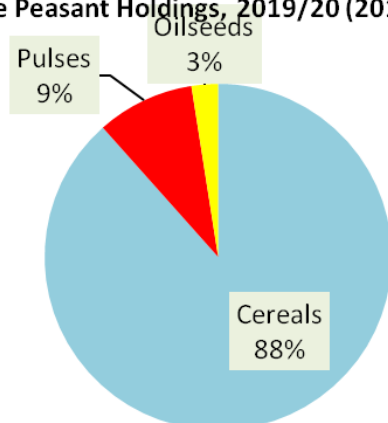
Out of the 2019/20 (2012 E.C.) private holdings total cultivated cropland area and expected volume of grain production, 10,421,645.78 hectares are accounted for cereals (81.59%) from which about 291,090,949.29 quintals (88.40%) are expected to be produced during this year's Meher harvest season (See Summary Table III.1 and Fig.1 & 2).

Crops such as Teff, Maize, Sorghum, Wheat and Barley within the category of cereals have covered an estimated total cultivated land area of about 3,151,721.06; 2,447,164.88; 1,785,227.99; 1,748,149.97 and 801,716.17 hectares, respectively (See Country Level Table.1).



Similarly, the total volume of about 58,085,410.32; 102,019,166.25; 51,077,960.61; 50,371,888.47 and 17,511,877.94 quintals are expected to be produced in the year 2019/20 (2012 E.C.) Meher season harvest, with an average expected yield of 18.43, 41.69, 28.61, 28.81 and 21.84 Qts/Ha, in that order. (For details see Table 1).

Figure 2: Percentage Distribution of Expected Production of Major Food Crops For Private Peasant Holdings, 2019/20 (2012 E.C), Main Season



Pulses currently planted on about 1,576,175.26 hectares of land (12.34%), from which about 30,027,095.99 quintals (9.12%) is expected to be produced in the 2019/20 (2012 E.C.) harvest year. Pulses such as faba beans, field peas white haricot beans and red haricot beans are planted in about 469,911.63; 218,658.90; 98,526.00 and 175,121.76 hectares of land from which about 10,151,486.32; 3,684,433.96; 1,714,291.99 and 3,152,488.37 quintals of these grains are expected to be produced in the coming harvest, with an average expected yield of 21.60; 16.85; 17.40 and 18.00 quintals per hectare, in that order.

According to the survey results, oilseeds are grown on land area estimated at 776,090.54 hectares (6.08%) from which about 8,163,321.81 quintals (2.48%) are expected to be produced in this year's Meher harvest season. Crops such as Neug, linseed, groundnut, and sesame within the category of oilseeds have covered 237,122.42; 69,994.63; 88,267.87 and 364,054.13 hectares of land, from which about 2,824,891.58; 823,051.92; 1,617,152.61 and 2,627,767.85 quintals of these crops with an average expected yield ranging from 18.32 qt/ha for groundnut to 7.22 qt/ha for sesame, respectively, (See Table 1).

As observed from the results of the survey, grain crops are grown in almost all regions of the country, with slight to significant variations across the regions both in the size of cropland area and expected volume of production. Soil type, topography, climate and weather conditions of each regions and farmers preference, which is usually the reflection of speculated market demand for a specific crop by the farmers themselves, and/or advice from the concerned governmental and/or non-governmental institutions among others, are considered as the major contributing factors for the observed regional variations.

However, the results of the 2019/20 (2012 E.C.), Crop Production Forecast Sample Survey, indicates that both the largest grain cropped land area (i.e. 12,659,115.57 hectares of land about 99.10% of the total country level Grain Crops Covered Area) and the highest expected volume of production to be obtained in the coming Meher season harvest (i.e. 326,770,125.42 Quintals, contributing about 99.24% of the total country level expected grain production) is reported in Oromia, Amhara, SNNP, Tigray, and Benshangul-Gumuz regions altogether. The total grain cropped area reported in each of the above mentioned regions was 5,764,646.61; 4,518,123.62; 1,176,892.85; 945,349.76 and 254,102.73 hectares of land, contributing for about 45.13%, 35.37%, 9.21%, 7.40% and 1.99% to the total country level grain crops covered area, respectively. Similarly, the total expected volume of production to be obtained from the cropland area reported in each of the above mentioned regions was estimated to be 162,383,019.94; 106,137,996.73; 31,598,213.25; 20,076,255.59 and 6,574,639.91 quintals, which accounted for 49.31%, 32.23%, 9.60%, 6.10% and 2.00% of the total expected grain crops production reported at country level, respectively (for details see Summary Table III.4, fig 3 & 4).

Since almost all crops within the cereals crops category served as staple food crops in Ethiopia, the trend of cereal crops covered land area and production data of the last ten-production years showed that cereal crops are found to be the dominant crops grown in the country compared to pulses and oilseeds.

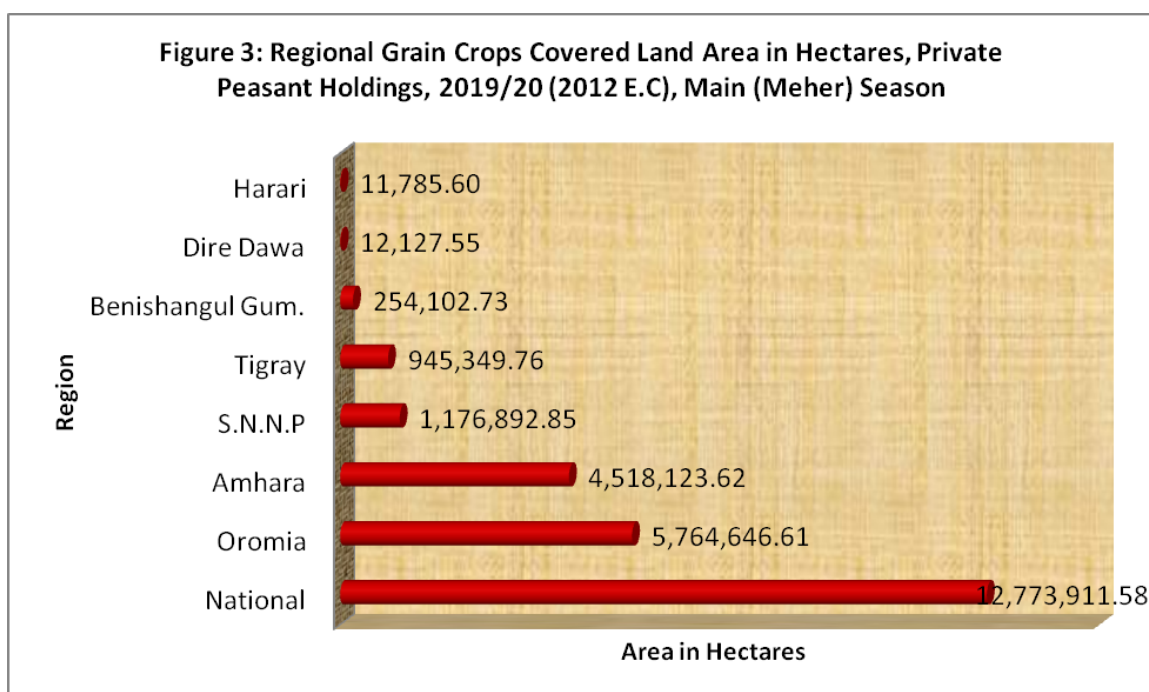
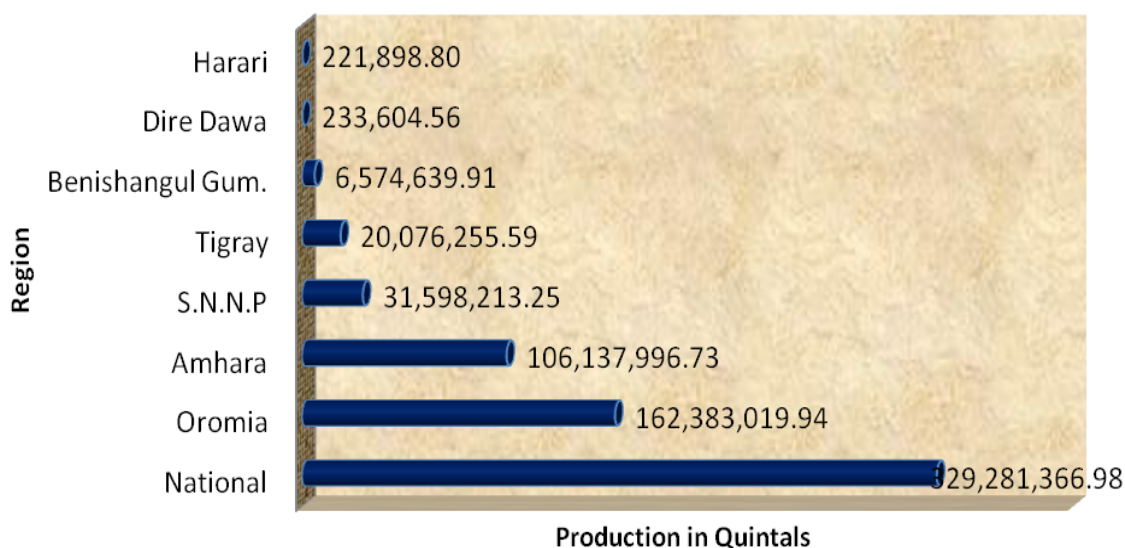


Figure 4: Regional Grain Crops Expected Production in Quintals, Private Peasant Holdings, 2019/20 (2012 E.C), Main (Meher) Season

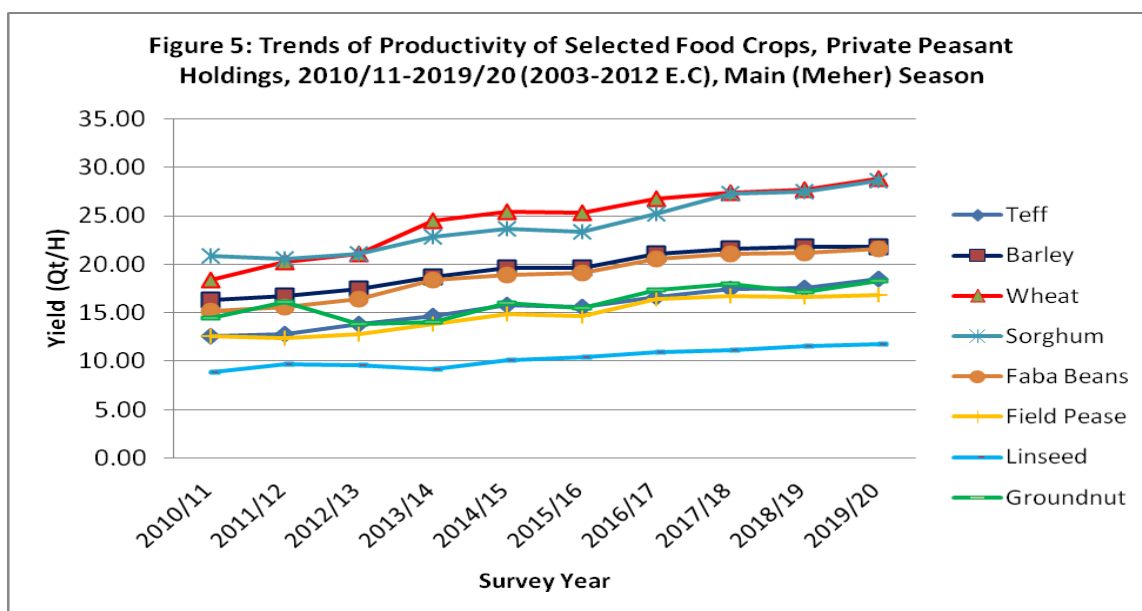


Among cereal crops Teff, barley, wheat, maize and sorghum are found to be the most commonly grown crops across the regions. However, of the regional cropland area and expected volume of production of these crops, Oromia Region reported the highest both in cropland area and expected production followed by Amhara and then SNNP Regions. Likewise; the expected yield reported for each of the crops mentioned above followed the same pattern where the highest crop productivity i.e., 41.69 qts/he was reported for maize, whereas the lowest Crop productivity i.e. 7.22 qts/he for sesame (See Summary Table III. 2). Similarly, Oromia, Amhara, SNNPR, and Tigray are the leading Regions in producing both pulses and oilseeds in the country. The total reported cropland area under pulses in these regions was 560,704.51; 713,565.61; 217,551.00 and 50,230.35; hectares of land while; cropland area under oilseed was 317,161.34; 286,351.90; 4,937.46 and 117,994.69 respectively (see Summary Table III. 6 & Summary Table III.7).

3.3 Comparison of the 2019/20 (2012 E.C.) Pre-harvest Expected Yield with 2015/16, 2016/17, 2017/18 and 2018/19 Post Harvest Estimates

In this section of the report, an attempt has been made to compare the expected crop productivity of selected important food crops obtained from the 2019/20 (2012 E.C.) Crop Production Forecast Sample Survey with that of the 2015/16, 2016/17, 2017/18 and 2018/19 post harvest crop yield estimates. Such comparisons are believed to give a bird's eye view on the prospects of the current 2019/20 (2012 E.C.) Meher season harvest in terms of crop productivity so that it is possible to grossly evaluate the current Meher Season performance. Consequently, the results of such comparison will help the stakeholders concerned to easily identify surplus and/or deficit producing regions and pave the way for further investigation, in order to take appropriate measures in advance. Therefore, brief discussions on crop productivity comparisons made for selected important food crops at country level is presented as follows.

The 'keremet' rain fall was said to be normal both in its amount and distribution in many parts of the country, as a result, in the current crop-growing season, i.e. 2019/20 (2012 E.C.), both the country level estimated cropped land area and expected volume of production of grain crops have shown significant increment over the previous four consecutive years post harvest estimates. For instance, the current year i.e. 2019/20 estimated grain crops covered area has increased by about 2.30%, 1.59%, 0.76% and 0.37% over the 2015/16, 2016/17, 2017/18 and 2018/19 post harvest estimates, respectively. Following the same pattern, the current year (2019/20) expected volume of production for grain crops at country level has increased by about 23.41%, 13.39%, 7.56% and 4.33% when compared with 2015/16, 2016/17, 2017/18 and 2018/19 post harvest estimates, respectively (See Summary Table III.4).



Moreover, the expected crop productivity for almost all crops is anticipated to be better; particularly for cereal crops such as Teff, Maize and Sorghum, where for instance the current year anticipated productivity of Teff has shown an increment by 18.14%, 10.76%, 5.43% and 4.93% over the 2015/16, 2016/17, 2017/18 and 2018/19 post harvest yield estimates. Similarly, the expected productivity of Maize and Sorghum have shown the same trend like that of Teff, where the increment of expected productivity of Maize and Sorghum over the past four consecutive years post harvest estimates ranges from 3.98 to 23.08% for Maize and from 4.19 to 22.74% increment for Sorghum. (See Summary Table III.2)

Summary Table III. 2 Trends of Crop Productivity for Selected Important Crops, for private peasant holdings; 2015/16 - 2019/20, Main Season

Crop Type	Estimated And Expected Crop Productivity (Qt/He)					Percentage change of 2019/20 Over			
	2015/16	2016/17	2017/18	2018/19	2019/20	2015/16	2016/17	2017/18	2018/19
Teff	15.60	16.64	17.48	17.56	18.43	18.14	10.76	5.43	4.93
Barley	19.66	21.11	21.57	21.77	21.84	11.10	3.47	1.27	0.32
Wheat	25.35	26.75	27.36	27.68	28.81	13.67	7.72	5.32	4.10
Maize	33.87	36.75	39.44	40.09	41.69	23.08	13.44	5.70	3.98
Sorghum	23.31	25.25	27.26	27.46	28.61	22.74	13.31	4.96	4.19
Faba Beans	19.12	20.53	21.09	21.17	21.60	12.99	5.23	2.43	2.06
Field Peas	14.61	16.38	16.71	16.64	16.85	15.33	2.87	0.84	1.24
Neug	9.12	10.75	11.13	11.49	11.91	30.63	10.82	7.04	3.71
Linseed	10.37	10.94	11.16	11.56	11.76	13.39	7.48	5.37	1.71
Groundnut	15.50	17.32	17.96	17.11	18.32	18.20	5.78	2.01	7.11
Sesame	7.06	7.93	6.91	6.84	7.22	2.24	-8.98	4.46	5.52

3.4 The prospect of Root Crops (Potatoes, Sweet potatoes, Taro/Godere and Enset) of the coming 2019/20 (2012 E.C) Meher Season Harvest

Like that of grain crops, the contribution of root crops such as potatoes, sweet potatoes, Taro (Godere) including Enset for human consumption as food crops cannot be over emphasized. The majority of the population in South & South-western Ethiopia solely depends on root crops particularly on those mentioned above for its daily food consumption both during surplus and/or poor harvest years.

Summary Table III. 3 Area and Expected Production of Root Crops for Private Holdings, 2019/20 (2012 E.C.), Main (Meher) Season

Crop type	Total Area		Expected Production	
	(Hectares)	%	(Quintals)	%
Potatoes	67,627.18	39.85	9,515,234.34	23.34
Sweet Potatoes	41,767.27	24.61	15,343,564.79	37.63
Taro (Godere)	60,309.95	35.54	15,916,443.09	39.03
Total Root Crops	169,704.40	100.00	40,775,242.22	100.00

Summary Table III. 4 Summary Table III.4 Number of trees to be harvested and Expected Production of Enset for Private peasant Holdings, 2019/20 (2012 E.C.), Main (Meher) Season

Crop Name	Number of Trees To be Harvested In 2019/20	2019/20 Expected Production in Quintals		
		Amicho	Kocho	Bulla
Enset	145,974,447.00	40,237,138.51	44,939,800.02	1,446,119.96

According to the 2019/20 (2012 E.C.) survey results, Root Crops (i.e. Potatoes, Sweet potatoes and Taro (Godere) grown in 2019/20 (2012 E.C.) covered a total of 169,704.40 hectares of land, from which a total volume of about 40,775,242.22 quintals are expected to be produced from private peasant holdings (See Summary Table III.3, and Figure 6). Regarding Enset, there are 145,974,447 trees to be harvested from which 40,237,138.51, 44,939,800.02 and 1,446,119.96 quintals of Amicho, Kocho and Bulla are expected to be produced respectively from private peasant holdings. (See Table III.4)

Summary Table III.4 Estimates of Cropland Area, and Expected Production Of Major Crops Forecast 2019/20 (2012 E.C) For Private Peasant Holdings, by Region, Meher Season

Region/Killil	Estimates Of Area in Hectares			Forecast Of	% Change Of 2019/20 forecast Over			Estimates Of Production in Quintals			Forecast Of	% Change Of 2019/20 forecast Over		
	2016/17	2017/18	2018/19		2016/17	2017/18	2018/19	2016/17	2017/18	2018/19		2016/17	2017/18	2018/19
Tigray	936,908.37	941,091.28	941,109.61	945,349.76	0.90	0.45	0.45	18,448,000.20	18,589,665.02	19,432,966.43	20,076,255.59	28.17	8.83	8.00
Amhara	4,443,390.47	4,479,345.02	4,493,847.15	4,518,123.62	1.68	0.87	0.54	95,282,955.56	100,520,273.48	103,102,649.81	106,137,996.73	21.35	11.39	5.59
Oroma	5,712,960.48	5,757,293.43	5,764,272.99	5,764,646.61	0.90	0.13	0.01	143,893,653.61	151,080,010.79	155,393,448.31	162,383,019.94	21.83	12.85	7.48
Benishangul Gum.	250,336.78	253,409.72	253,681.56	254,102.73	1.50	0.27	0.17	5,409,168.11	5,818,801.22	6,272,383.51	6,574,639.91	36.47	21.55	12.99
S.N.N.P	1,116,029.05	1,133,354.78	1,159,993.92	1,176,892.85	5.45	3.84	1.46	25,134,237.79	27,640,228.02	28,980,614.95	31,598,213.25	35.03	25.72	14.32
Harari	11,487.15	11,570.41	11,454.92	11,785.60	2.60	1.86	2.89	195,291.12	206,235.11	181,866.10	221,898.80	35.00	13.62	7.60
Dire Dawa	11,601.45	12,025.66	11,948.19	12,127.55	4.53	0.85	1.50	226,862.08	228,847.96	182,391.17	233,604.56	91.43	2.97	2.08
Country Level	12,574,107.33	12,677,882.27	12,727,191.21	12,773,911.58	1.59	0.76	0.37	290,385,593.21	306,126,383.06	315,602,058.49	329,281,366.98	23.41	13.39	7.56

Summary Table III.5 Estimates of Cropland Area, and Expected Production Of Cereal crops 2019/20 (2012 E.C) For Private Peasant Holdings, by Region, Meher Season

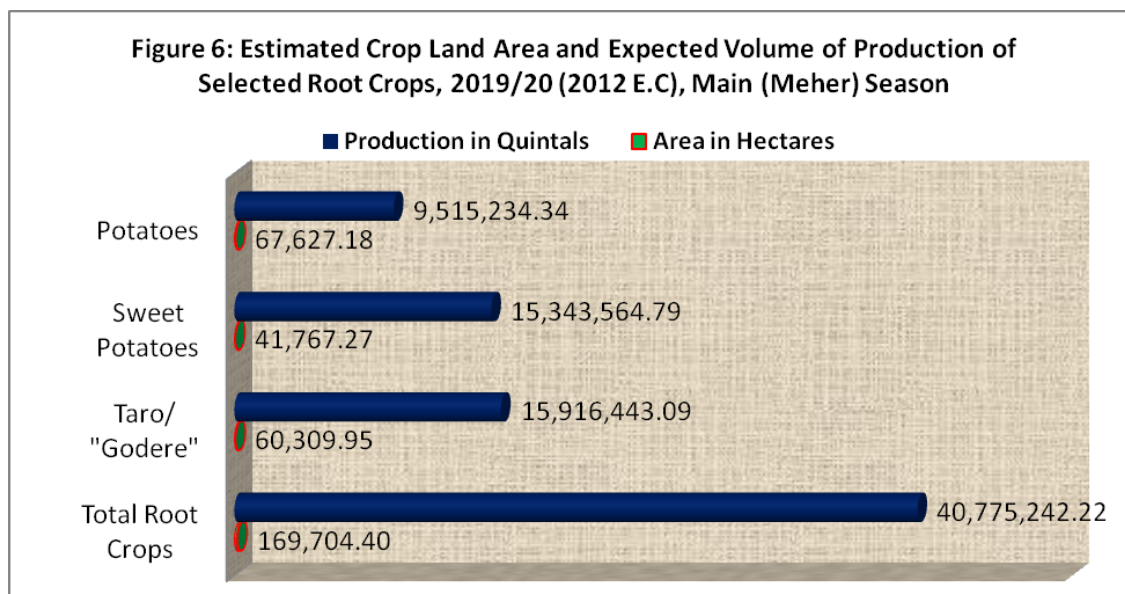
Region/Killil	Estimates Of Area In Hectares			Forecast Of	% Change Of 2019/20 Forecast Over			Estimates Of Production In Quintals			Forecast Of	% Change Of 2019/20 Forecast Over		
	2016/17	2017/18	2018/19		2016/17	2017/18	2018/19	2016/17	2017/18	2018/19		2016/17	2017/18	2018/19
Tigray	778,119.61	769,670.80	785,099.80	777,124.71	-0.13	0.97	-1.02	17,025,830.07	17,135,451.73	17,957,074.07	18,387,291.04	8.00	7.31	2.40
Amhara	3,491,476.11	3,499,684.34	3,506,080.35	3,518,206.10	0.77	0.53	0.35	81,329,482.51	86,213,639.35	88,087,369.58	90,810,498.01	11.66	5.33	3.09
Oroma	4,792,014.49	4,797,159.00	4,858,959.99	4,886,780.76	1.98	1.87	0.57	127,719,932.60	133,797,762.19	139,168,163.36	146,443,680.00	14.66	9.45	5.23
Benishangul Gum.	166,988.94	169,256.31	179,253.07	178,196.15	6.71	5.28	-0.59	4,269,185.63	4,648,687.75	5,127,313.42	5,352,398.15	25.37	15.14	4.39
S.N.N.P	885,142.94	892,133.80	923,391.79	954,404.39	7.82	6.98	3.36	21,375,643.17	23,631,256.61	24,971,332.26	27,680,137.46	29.49	17.13	10.85
Harari	8,681.78	8,825.77	9,202.89	9,755.43	12.37	10.53	6.00	165,664.05	173,698.68	166,175.25	204,600.74	23.50	17.79	23.12
Dire Dawa	10,759.58	11,124.90	11,139.83	11,415.83	6.10	2.62	2.48	213,992.94	215,096.23	174,047.02	225,437.89	5.35	4.81	29.53
Country Level	10,219,443.46	10,232,582.23	10,358,890.13	10,421,645.78	1.98	1.85	0.61	253,847,239.63	267,789,764.02	277,638,380.98	291,090,949.29	14.67	8.70	4.85

Summary Table III.6 Estimates of Cropland Area, and Expected Production Of Pulses crops 2019/20 (2012 E.C) For Private Peasant Holdings, by Region, Meher Season

Region/Killil	Estimates Of Area In Hectares				Forecast Of	% Change Of 2019/20 Over			Estimates Of Production In Quintals			Forecast Of	% Change Of 2019/20 Over		
	2016/17	2017/18	2018/19	2019/20		2016/17	2017/18	2018/19	2016/17	2017/18	2018/19	2019/20	2016/17	2017/18	2018/19
Tigray	37,819.56	37,230.62	48,103.43	50,230.35		32.82	34.92	4.42	570,502.25	567,697.57	741,840.09	794,209.23	39.21	39.90	7.06
Amhara	651,045.18	677,843.42	723,615.60	713,565.61		9.60	5.27	-1.39	11,081,701.75	11,755,650.21	12,737,910.32	12,970,733.90	17.05	10.34	1.83
Oroma	610,299.96	622,144.90	584,896.19	560,704.51		-8.13	-9.88	-4.14	12,337,136.17	13,022,349.31	12,064,333.56	11,721,998.49	-4.99	-9.99	-2.84
Benishangul Gum.	22,570.87	22,791.67	30,505.61	31,192.16		38.20	36.86	2.25	427,914.31	445,232.52	596,098.82	646,629.91	51.11	45.23	8.48
S.N.N.P	225,573.93	235,795.37	230,386.63	217,551.00		-3.56	-7.74	-5.57	3,712,787.35	3,965,849.40	3,947,174.28	3,867,392.17	4.16	-2.48	-2.02
Harari	19.68	22.69	27.51	2.59		-86.84	-88.59	-90.59	149.13	120.64	117.54	19.32	-87.04	-83.99	-83.56
Dire Dawa	642.58	525.91	466.65	433.35		-32.56	-17.60	-7.14	10,669.95	8,810.82	5,214.94	5,321.84	-50.12	-39.60	2.05
Country Level	1,549,911.86	1,598,806.51	1,620,497.30	1,576,175.26		1.69	-1.42	-2.74	28,146,331.73	29,785,880.89	30,113,480.57	30,027,095.89	6.68	0.81	-0.29

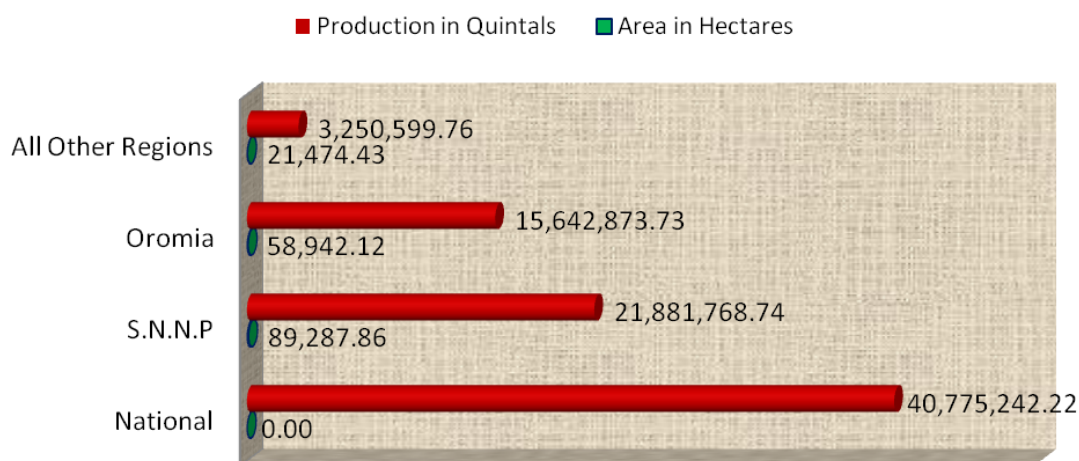
Summary Table III.7 Estimates of Cropland Area, and Expected Production Of Oil Seeds crops 2019/20(2012 E.C) For Private Peasant Holdings, by Region, Meher Season

Region/Killil	Estimates Of Area In Hectares				Forecast Of	% Change Of 2019/20 Forecast Over			Estimates Of Production in Quintals			Forecast Of	% Change Of 2019/20 Forecast Over		
	2016/17	2017/18	2018/19	2019/20		2016/17	2017/18	2018/19	2016/17	2017/18	2018/19	2019/20	2016/17	2017/18	2018/19
Tigray	120,969.20	134,189.86	107,906.37	117,994.69		-2.46	-12.07	9.35	851,667.89	886,515.71	734,052.26	894,755.32	5.06	0.93	21.89
Amhara	300,869.18	301,817.26	264,151.20	286,351.90		-4.83	-5.12	8.40	2,871,771.30	2,550,983.92	2,277,369.90	2,356,764.83	-17.93	-7.61	3.49
Oroma	310,646.03	337,989.53	320,416.81	317,161.34		2.10	-6.16	-1.02	3,836,584.83	4,259,899.29	4,160,951.39	4,217,341.45	9.92	-1.00	1.36
Benishangul Gum.	60,776.97	61,361.73	43,922.88	44,714.42		-26.43	-27.13	1.80	712,068.16	724,880.95	548,971.27	575,611.85	-19.16	-20.59	4.85
S.N.N.P	5,312.18	5,425.60	6,215.50	4,937.46		-7.05	-9.00	-20.56	45,807.27	43,122.00	62,108.41	50,683.62	10.65	17.54	-18.39
Harari	2,785.69	2,721.95	2,224.52	2,027.58		-27.21	-25.51	-8.85	29,477.94	32,415.78	15,573.31	17,278.73	-41.38	-46.70	10.95
Dire Dawa	199.30	374.85	341.71	278.38		39.68	-25.74	-18.53	2,199.19	4,940.91	3,129.21	2,844.84	29.36	-42.42	-9.09
Country Level	804,752.00	846,493.53	747,803.78	776,090.54		-3.56	-8.32	3.78	8,392,021.85	8,550,738.16	7,850,196.94	8,163,321.81	-2.73	-4.53	3.99



Potatoes, sweet potatoes and Taro (Godere) currently planted on about 67,627.18; 41,767.27 and 60,309.95 hectares of land contributing 39.85%; 24.61%; and 35.54% to the total Root crops covered area at country level, respectively. Consequently, from the total land area covered by each of the above mentioned crops, about 9,515,234.34; 15,343,564.79 and 15,916,443.09 quintals, which accounted for about 23.34%; 37.63% and 39.03% of the total root crops are expected to be produced in the 2019/20 (2012 E.C.) harvest year, respectively. Moreover, with regard to regional total root crops covered area, and volume of production, SNNP and Oromiya regions reported the highest root crops covered area totaled at 58,942.12 and 89,287.86 hectares of land, from which a total production of 15,642,873.73 and 21,881,768.74 quintals of root crops (potatoes, sweet potatoes and Taro) are expected to be obtained from the 2019/20 (2012 E.C), Meher season, harvest respectively (see Summary Table III. 8 and Figure 7)

Figure 7: Regional Root Crops Covered Land Area and Expected Production, 2019/20 (2012 E.C), Main (Meher) Season



Finally, users of this report should be aware that the information on what is called condition factors was collected in the month of October 2019 (Tikimet 2012 E.C.). Therefore, the results should be used with great caution in light of the favorable or adverse conditions of weather and other factors, which may affect the crop after the crop production forecast survey data was collected. The effects of these subsequent changes in crop conditions are not reflected in this report. Moreover, the current year forecast estimates do not include Post harvest losses.

Note:

1. If in some tables, figures do not add up equal to total, it is due to rounding.
2. Those forecasts designated by “*” in all tables could not be reported because of high coefficient of variation (i.e. they are less reliable). However, they are consolidated in the total estimates.
3. In all tables “-” indicates not reported and “0.00” indicates the value is insignificant.
4. Due to incompleteness of the year 2019/20 (2012 E.C.) Crop Production Forecast field data collection activities, (in Afar, Somali and Gambella regions), the 2018/19 (2011 E.C.) post harvest estimates for each of the respective regions are imputed for completeness purpose.

**Summary Table III.8 Estimates of Cropland Area and Expected Production Of Major Root Crops (Potatoes, Sweet Potatoes and Taro) 2019/20 (2012 E.C)
For Private Peasant Holdings, by Region, Meher Season**

Region/Killil	Estimates Of Area In Hectares				Forecast Of	% Change Of 2019/20 Forecast Over			Estimates Of Production In Quintals			Forecast Of	% Change Of 2019/20 Forecast Over		
	2016/17	2017/18	2018/19	2019/20		2016/17	2017/18	2018/19	2016/17	2017/18	2018/19	2019/20	2016/17	2017/18	2018/19
Tigray	169,027.35	169,055.32	171,123.31	169,704.40	0.40	0.38	-0.83		50,387.59	42,352.98	47,420.26	49,007.16	-2.74	15.71	3.35
Amhara	19,008.21	19,779.47	17,724.41	18,690.93	-1.67	-5.50	5.45		2,951,754.37	2,988,415.67	2,692,482.01	2,862,819.07	-3.01	-4.20	6.33
Oroma	57,783.72	61,093.01	59,210.37	58,942.12	2.00	-3.52	-0.45		16,224,942.01	16,374,480.54	15,365,366.56	15,642,873.73	-3.59	-4.47	1.81
Benishangul Gum.	1,080.80	1,192.57	2,452.80	1,812.42	67.69	51.98	-26.11		197,200.35	208,546.53	433,711.47	326,256.34	65.44	56.44	-24.78
S.N.N.P	90,098.29	86,182.75	90,744.74	89,287.86	-0.90	3.60	-1.61		21,354,916.30	20,344,007.51	21,434,282.19	21,881,768.74	2.47	7.56	2.09
Harari	61.25	92.39	116.09	71.07	16.03	-23.08	-38.78		11,607.59	13,799.93	15,834.90	12,517.19	7.84	-9.30	-20.95
Dire Dawa	*	*	*	*	*	*	*		*	*	*	*	*	*	*
Country Level	169,027.35	169,055.32	171,123.31	169,704.40	0.40	0.38	-0.83		40,790,808.20	39,971,603.17	39,989,097.40	40,775,242.22	-0.04	2.01	1.97

National, Regional and Zonal Statistical Tables

Table 1:- Estimates Of Cropland Area, Expected Production and Yield Of Major Crops Forecast For Private Peasant Holdings : 2019/20 (2012 E.C), Main Season
COUNTRY LEVEL

COUNTRY LEVEL	TOTAL AREA IN HECTARES					TOTAL PRODUCTION IN QUINTALS					YIELD (Qt/Ha)				
Major Crops	Estimates Of		Forecast Of	% Change Of 2019/20 Over		Estimates Of		Forecast Of	% Change Of 2019/20 Over		Estimates Of		Forecast Of	% Change Of 2019/20 Over	
	2017/18	2018/19		2019/20	2017/18	2018/19	2017/18		2018/19	2019/20	2017/18	2018/19		2017/18	2018/19
Total Grains....	12,677,882.27	12,727,191.21	12,773,911.58	0.76	0.37	306,126,383.06	315,602,058.49	329,281,366.98	7.56	4.33					
Cereals.....	10,232,582.23	10,358,890.13	10,421,645.78	1.85	0.61	267,789,764.02	277,638,380.98	291,090,949.29	8.70	4.85					
Teff.....	3,023,283.50	3,076,595.02	3,151,721.06	4.25	2.44	52,834,011.56	54,034,790.51	58,085,410.32	9.94	7.50	17.48	17.56	18.43	5.43	4.93
Barley.....	951,993.15	811,782.08	801,716.17	-15.79	-1.24	20,529,963.72	17,675,184.47	17,511,877.94	-14.70	-0.92	21.57	21.77	21.84	1.27	0.32
Wheat.....	1,696,907.05	1,747,939.31	1,748,149.97	3.02	0.01	46,429,657.12	48,380,740.91	50,371,888.47	8.49	4.12	27.36	27.68	28.81	5.32	4.10
Maize.....	2,128,948.91	2,367,797.39	2,447,164.88	14.95	3.35	83,958,872.44	94,927,708.34	102,019,166.25	21.51	7.47	39.44	40.09	41.69	5.70	3.98
Sorghum....	1,896,389.29	1,829,662.39	1,785,227.99	-5.86	-2.43	51,692,525.40	50,243,680.72	51,077,960.61	-1.19	1.66	27.26	27.46	28.61	4.96	4.19
Finger Millet....	456,057.31	446,909.00	416,733.01	-8.62	-6.75	10,308,231.53	10,356,295.66	10,102,110.74	-2.00	-2.45	22.60	23.17	24.24	7.26	4.61
Oats/'Aja'.....	25,896.22	14,843.08	11,057.55	-57.30	-25.50	526,318.93	301,439.40	225,734.52	-57.11	-25.11	20.32	20.31	20.41	0.47	0.52
Rice.....	53,106.79	63,361.86	59,875.15	12.74	-5.50	1,510,183.30	1,718,540.95	1,696,800.43	12.36	-1.27	28.44	27.12	28.34	-0.36	4.48
Pulses.....	1,598,806.51	1,620,497.30	1,576,175.26	-1.42	-2.74	29,785,880.89	30,113,480.57	30,027,095.89	0.81	-0.29					
Faba Beans	437,106.04	492,271.60	469,911.63	7.51	-4.54	9,217,615.35	10,419,535.14	10,151,486.32	10.13	-2.57	21.09	21.17	21.60	2.43	2.06
Field Peas	220,508.39	216,786.33	218,658.90	-0.84	0.86	3,685,190.65	3,608,112.40	3,684,433.96	-0.02	2.12	16.71	16.64	16.85	0.84	1.24
Wht Haricot beans	89,382.68	88,302.71	98,526.00	10.23	11.58	1,482,128.42	1,508,230.37	1,714,291.99	15.66	13.66	16.58	17.08	17.40	4.94	1.87
Red - Haricot beans.	216,803.91	200,334.52	175,121.76	-19.23	-12.59	3,727,664.85	3,374,971.33	3,152,488.37	-15.43	-6.59	17.19	16.85	18.00	4.72	6.86
Red Chick-Pea....	242,703.73	163,067.24	144,237.97	-40.57	-11.55	4,994,255.50	3,301,531.98	2,962,116.75	-40.69	-10.28	20.58	20.25	20.54	-0.21	1.43
White Chick-Pea.	-	76,718.89	50,452.60	-	-34.24	-	1,290,199.89	882,015.89	-	-31.64	-	16.82	17.48	-	3.95
Lentils.....	119,046.04	99,753.97	103,891.08	-12.73	4.15	1,751,435.58	1,408,122.17	1,479,772.83	-15.51	5.09	14.71	14.12	14.24	-3.17	0.90
Grass Peas.....	143,085.60	130,543.38	129,325.99	-9.62	-0.93	2,866,016.31	2,604,157.88	2,628,006.93	-8.30	0.92	20.03	19.95	20.32	1.45	1.87
Soya Beans.....	38,072.70	64,720.12	84,464.92	121.85	30.51	864,678.69	1,494,546.13	2,086,913.88	141.35	39.64	22.71	23.09	24.71	8.80	6.99
Fenugreek.....	32,587.00	22,344.12	15,090.75	-53.69	-32.46	436,373.92	288,299.94	195,471.08	-55.21	-32.20	13.39	12.90	12.95	-3.26	0.39
Mung bean "Masho"	41,633.20	48,074.52	63,638.36	52.85	32.37	514,227.41	576,204.64	766,449.68	49.05	33.02	12.35	11.99	12.04	-2.48	0.49
Gibto.....	17,877.23	17,579.90	22,855.30	27.85	30.01	246,294.20	239,568.71	323,648.21	31.41	35.10	13.78	13.63	14.16	2.76	3.91
Oilseeds.....	846,493.53	747,803.78	776,090.54	-8.32	3.78	8,550,738.16	7,850,196.94	8,163,321.81	-4.53	3.99					
Neug.....	290,494.94	257,950.40	237,122.42	-18.37	-8.07	3,233,448.82	2,963,227.47	2,824,891.58	-12.64	-4.67	11.13	11.49	11.91	7.04	3.71
Linseed.....	79,044.51	83,626.93	69,994.63	-11.45	-16.30	882,096.51	966,855.92	823,051.92	-6.69	-14.87	11.16	11.56	11.76	5.37	1.71
Groundnut....	80,841.57	84,237.01	88,267.87	9.19	4.79	1,451,728.20	1,440,912.59	1,617,152.61	11.39	12.23	17.96	17.11	18.32	2.01	7.11
Sufflower....	7,966.73	6,489.00	6,086.18	-23.61	-6.21	95,768.76	80,394.80	76,094.38	-20.54	-5.35	12.02	12.39	12.50	4.02	0.92
Sesame.....	370,141.06	294,819.49	364,054.13	-1.64	23.48	2,559,034.30	2,016,646.44	2,627,767.85	2.69	30.30	6.91	6.84	7.22	4.46	5.52
Rapeseed.....	18,004.73	20,680.95	10,565.31	-41.32	-48.91	328,661.57	382,159.71	194,363.46	-40.86	-49.14	18.25	18.48	18.40	0.80	-0.45
TOTAL AREA IN HECTARES						TOTAL PRODUCTION IN QUINTALS					YIELD (QT/HA)				
Major Root Crops	Estimates Of		Forecast Of	% Change Of 2019/20 Over		Estimates Of		Forecast Of	% Change Of 2019/20 Over		Estimates Of		Forecast Of	% Change Of 2019/20 Over	
	2017/18	2018/19		2019/20	2017/18	2018/19	2017/18		2018/19	2019/20	2017/18	2018/19		2017/18	2018/19
Total Root Crops	169,055.32	171,123.31	169,704.40	0.38	-0.83	39,971,603.17	39,989,097.40	40,775,242.22	2.01	1.97					
Potatoes	69,610.81	73,677.64	67,627.18	-2.85	-8.21	9,689,696.44	10,444,363.59	9,515,234.34	-1.80	-8.90	139.20	141.76	140.70	1.08	-0.75
Taro / 'Godere'	45,995.28	56,065.32	60,309.95	31.12	7.57	11,797,769.33	14,633,644.48	15,916,443.09	34.91	8.77	256.50	261.01	263.91	2.89	1.11
Sweet potatoes	53,449.23	41,380.35	41,767.27	-21.86	0.94	18,484,137.40	14,911,089.33	15,343,564.79	-16.99	2.90	345.83	360.34	367.36	6.23	1.95
Number Of Trees Harvested			To be Harvested 2019/20	2018/19 Production In Quintals			2019/20 Expected Production In Quintals			2018/19 Yield (Qt/Ha)			2019/20 Expected Yield (Qt/Ha)		
Crop Name	2018/19			Amicho	Kocho	Bulla	Amicho	Kocho	Bulla	Amicho	Kocho	Bulla	Amicho	Kocho	Bulla
Enset	136,088,791.00		145,974,447	34,470,255.16	38,473,366.20	1,164,694.12	40,237,138.51	44,939,800.02	1,446,119.96	0.25	0.28	0.01	0.28	0.31	0.01

Table 2:- Estimates Of Cropland Area, Expected Production and Yield Of Major Crops Forecast For Private Peasant Holdings : 2019/20 (2012 E.C), Main Season)
TIGRAY REGION

TOTAL AREA IN HECTARES						TOTAL PRODUCTION IN QUINTALS						YIELD (Qt/Ha)					
Major Crops	Estimates Of		Forecast Of	% Change Of 2019/20 Over		Estimates Of		Forecast Of	% Change Of 2019/20 Over		Estimates Of		Forecast Of	% Change Of 2019/20 Over			
	2017/18	2018/19		2017/18	2018/19	2017/18	2018/19		2017/18	2018/19	2017/18	2018/19		2017/18	2018/19		
	Total Grains.....	941,091.28	941,109.61	945,349.76	0.45	0.45	18,589,665.02	19,432,966.43	20,076,255.59	8.00	3.31						
Cereals.....	769,670.80	785,099.80	777,124.71	0.97	-1.02	17,135,451.73	17,957,074.07	18,387,291.04	7.31	2.40							
Teff.....	167,748.72	176,545.98	166,718.86	-0.61	-5.57	2,579,060.58	2,838,337.41	2,790,811.58	8.21	-1.67	15.37	16.08	16.74	8.91	4.10		
Barley.....	94,725.02	91,579.93	94,845.64	0.13	3.57	1,694,179.80	1,686,853.84	1,763,595.49	4.10	4.55	17.89	18.42	18.59	3.91	0.92		
Wheat.....	107,929.86	119,580.03	121,471.10	12.55	1.58	2,140,031.44	2,514,112.95	2,593,398.41	21.19	3.15	19.83	21.02	21.35	7.67	1.57		
Maize.....	62,161.78	67,675.62	69,865.24	12.39	3.24	1,590,561.25	1,735,972.03	1,886,451.36	18.60	8.67	25.59	25.65	27	5.51	5.26		
Sorghum.....	254,655.92	242,716.17	239,044.72	-6.13	-1.51	7,262,717.79	7,092,509.41	7,206,253.44	-0.78	1.60	28.52	29.22	30.15	5.72	3.18		
Finger Millet.....	82,021.79	85,575.12	84,868.47	3.47	-0.83	1,858,265.11	2,054,235.61	2,139,061.49	15.11	4.13	22.66	24.01	25.2	11.21	4.96		
Oats/'Aja'.....	*	203.83	*	*	*	*	4,087.43	*	*	*	*	20.05	*	*	*		
Rice.....	*	1,223.13	*	*	*	*	30,965.39	*	*	*	*	25.32	*	*	*		
Pulses.....	37,230.62	48,103.43	50,230.35	34.92	4.42	567,697.57	741,840.09	794,209.23	39.90	7.06							
Faba Beans	10,525.93	12,342.62	11,806.66	12.17	-4.34	173,354.45	208,790.10	203,077.26	17.15	-2.74	16.47	16.92	17.2	4.43	1.65		
Field Peas	5,307.74	6,058.24	8,563.12	61.33	41.35	80,649.35	92,245.57	132,746.29	64.60	43.91	15.19	15.23	15.5	2.04	1.77		
Wht Haricot beans	2,103.97	2,923.93	*	*	*	*	43,575.99	*	*	*	*	14.9	*	*	*		
Red - Haricot beans.	1,227.66	*	*	*	*	15,956.60	*	*	*	*	13.00	*	*	*	*		
Red Chick-Pea.....	6,845.93	5,672.42	6,594.32	-3.68	16.25	111,612.30	93,671.38	114,764.78	2.82	22.52	16.30	16.51	17.4	6.75	5.39		
White Chick-Pea..	-	-	*	-	*	-	-	*	-	-	-	-	*	-	-		
Lentils.....	5,689.89	9,609.46	8,242.41	44.86	-14.23	70,124.06	123,962.85	107,160.49	52.82	-13.55	12.32	12.9	13	5.52	0.78		
Grass Peas.....	5,129.55	7,352.54	7,472.81	45.68	1.64	84,969.94	128,500.56	134,662.21	58.48	4.80	16.56	17.48	18.02	8.82	3.09		
Soya Beans.....	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
Fenugreek.....	367.63	272.89	*	*	*	3,097.66	2,241.76	*	*	*	8.43	8.21	*	*	*		
Mung bean "Masho"	-	*	*	-	*	-	*	*	-	*	-	*	*	-	*		
Gibto.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Oilseeds.....	134,189.86	107,906.37	117,994.69	-12.07	9.35	886,515.71	734,052.26	894,755.32	0.93	21.89							
Neug.....	5,697.38	6,419.50	6,014.82	5.57	-6.30	78,310.09	93,090.40	92,813.16	18.52	-0.30	13.74	14.5	15.43	12.30	6.41		
Linseed.....	5,198.69	5,360.52	3,327.12	-36.00	-37.93	52,630.67	56,862.78	36,607.90	-30.44	-35.62	10.12	10.61	11	8.70	3.68		
Groundnut.....	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
Sufflower.....	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
Sesame.....	122,325.34	95,943.72	107,540.13	-12.09	12.09	746,142.63	582,333.48	752,195.08	0.81	29.17	6.10	6.07	6.99	14.59	15.16		
Rapeseed.....	*	*	*	*	*	-	*	*	-	*	-	*	*	-	*		
TOTAL AREA IN HECTARES						TOTAL PRODUCTION IN QUINTALS						YIELD (QT/HA)					
Major Root Crops	Estimates Of		Forecast Of	% Change Of 2019/20 Over		Estimates Of		Forecast Of	% Change Of 2019/20 Over		Estimates Of		Forecast Of	% Change Of 2019/200 ver			
	2017/18	2018/19		2017/18	2018/19	2017/18	2018/19		2017/18	2018/19	2017/18	2018/19		2017/18	2018/19		
Total Root Crops	547.25	606.83	619.83	13.26	2.14	42,352.98	47,420.26	49,007.16	15.71	3.35							
Potatoes	547.25	604.48	618.38	13.00	2.30	42,352.98	47,420.26	49,007.16	15.71	3.35	77.39	78.45	79.25	2.40	1.02		
Taro / 'Godere'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Sweet potatoes	-	*	*	*	*	-	-	*	*	*	-	-	-	-	-		
Number Of Trees Harvested			To be Harvested 2019/20	2018/19 Production In Quintals			2019/20 Expected Production In Quintals			2018/19 Yield (Qt/Ha)			2019/20 Expected Yield (Qt/Ha)				
Crop Name				Amicho	Kocho	Bulla	Amicho	Kocho	Bulla	Amicho	Kocho	Bulla	Amicho	Kocho	Bulla		
Enset			-	-	-	-	-	-	-	-	-	-	-	-	-		

Table 3 :- Estimates Of Cropland Area, Expected Production and Yield Of Major Crops Forecast For Private Peasant Holdings : 2019/20 (2012 E.C), Main Season
AMHARA REGION

TOTAL AREA IN HECTARES															TOTAL PRODUCTION IN QUINTALS															YIELD (Qt/Ha)														
Major Crops		Estimates Of		Forecast Of	% Change Of 2019/20 Over			Estimates Of		Forecast Of	% Change Of 2019/20 Over			Estimates Of		Forecast Of	% Change Of 2019/20 Over																											
		2017/18	2018/19		2017/18	2018/19	2017/18	2018/19	2017/18		2018/19	2017/18	2018/19	2017/18	2018/19		2017/18	2018/19																										
Total Grains.....		4,479,345.02	4,493,847.15	4,518,123.62	0.87	0.54	100,520,273.48	103,102,649.81	106,137,996.73	5.59	2.94																																	
Cereals.....		3,499,684.34	3,506,080.35	3,518,206.10	0.53	0.35	86,213,639.35	88,087,369.58	90,810,498.01	5.33	3.09																																	
Teff.....		1,138,030.51	1,200,986.74	1,201,283.74	5.56	0.02	20,394,482.71	21,614,861.85	22,582,406.00	10.73	4.48	17.92	18.00	18.80	4.91	4.44																												
Barley.....		323,936.38	238,164.36	242,470.69	-25.15	1.81	6,394,523.75	4,817,694.34	4,922,062.24	-23.03	2.17	19.74	20.23	20.30	2.84	0.35																												
Wheat.....		554,661.74	570,742.91	575,015.31	3.67	0.75	14,047,074.81	14,820,433.79	15,583,799.90	10.94	5.15	25.33	25.97	27.10	6.99	4.35																												
Maize.....		520,116.84	559,981.55	534,007.80	2.67	-4.64	20,718,657.58	22,844,483.11	21,958,807.25	5.99	-3.88	39.83	40.80	41.12	3.24	0.78																												
Sorghum.....		672,491.78	643,170.00	688,114.09	2.32	6.99	17,812,032.42	17,040,820.52	18,831,823.38	5.73	10.51	26.49	26.50	27.37	3.32	3.28																												
Finger Millet....		246,522.71	248,292.40	234,632.36	-4.82	-5.50	5,604,665.08	5,710,949.96	5,708,193.30	1.85	-0.05	22.73	23.00	24.33	7.04	5.78																												
Oats/'Aja'.....		4,094.80	3,055.08	2,469.16	-39.70	-19.18	61,893.57	45,182.12	37,931.79	-38.71	-16.05	15.12	14.79	15.36	1.59	3.85																												
Rice.....		39,829.58	41,687.30	40,212.95	0.96	-3.54	1,180,309.43	1,192,943.90	1,185,474.15	0.44	-0.63	29.63	28.62	29.48	-0.51	3.00																												
Pulses.....		677,843.42	723,615.60	713,565.61	5.27	-1.39	11,755,650.21	12,737,910.32	12,970,733.90	10.34	1.83																																	
Faba Beans		150,934.92	191,788.53	185,130.62	22.66	-3.47	2,836,912.59	3,662,169.11	3,704,578.74	30.58	1.16	18.80	19.09	20.01	6.44	4.82																												
Field Peas		81,168.14	85,322.34	78,546.76	-3.23	-7.94	1,252,803.22	1,304,990.23	1,206,878.55	-3.67	-7.52	15.43	15.29	15.37	-0.39	0.52																												
Wht Haricot beans		38,040.90	48,058.97	44,874.93	17.96	-6.63	608,848.25	836,900.35	781,584.09	28.37	-6.61	16.01	17.41	17.42	8.81	0.06																												
Red - Haricot beans.		29,608.63	25,795.10	20,804.57	-29.73	-19.35	520,910.56	443,733.07	360,738.18	-30.75	-18.70	17.59	17.20	17.34	-1.42	0.81																												
Red Chick-Pea.....		132,280.55	93,218.97	84,363.52	-36.22	-9.50	2,512,880.40	1,736,463.73	1,619,274.67	-35.56	-6.75	19.00	18.63	19.19	1.00	3.01																												
White Chick-Pea...		-	28,566.87	23,820.90	-	-16.61	-	551,850.86	460,402.11	-	-16.57	-	19.32	19.33	-	0.05																												
Lentils.....		69,987.52	68,265.62	68,154.94	-2.62	-0.16	969,027.77	935,842.28	933,871.91	-3.63	-0.21	13.85	13.71	13.70	-1.08	-0.07																												
Grass Peas.....		97,272.53	86,427.13	85,379.60	-12.23	-1.21	1,848,867.92	1,637,827.22	1,620,548.13	-12.35	-1.06	19.01	18.95	18.98	-0.16	0.16																												
Soya Beans.....		*	*	50,742.58	*	*	*	*	1,333,743.15	*	*	*	*	26.28	*	*																												
Fenugreek.....		15,669.26	10,755.96	6,060.12	-61.32	-43.66	217,414.14	148,054.37	85,881.04	-60.50	-41.99	13.88	13.76	14.17	2.09	2.98																												
Mung bean "Masho"		31,670.70	36,585.53	42,920.94	35.52	17.32	403,014.67	457,570.54	540,654.62	34.15	18.16	12.73	12.51	12.60	-1.02	0.72																												
Gibto.....		17,135.36	17,019.86	22,766.12	32.86	33.76	244,558.66	239,504.61	322,578.72	31.90	34.69	14.27	14.07	14.17	-0.70	0.71																												
Oilseeds.....		301,817.26	264,151.20	286,351.90	-5.12	8.40	2,550,983.92	2,277,369.90	2,356,764.83	-7.61	3.49																																	
Neug.....		79,509.08	56,814.97	51,647.63	-35.04	-9.10	730,103.29	505,996.02	467,725.30	-35.94	-7.56	9.18	8.91	9.06	-1.31	1.68																												
Linseed.....		25,745.93	21,443.45	17,531.40	-31.91	-18.24	183,756.17	152,102.35	124,910.92	-32.02	-17.88	7.14	7.09	7.12	-0.28	0.42																												
Groundnut....		6,011.59	10,431.61	6,744.93	12.20	-35.34	102,975.01	183,530.87	126,740.61	23.08	-30.94	17.13	17.59	18.79	9.69	6.82																												
Sufflower....		6,695.80	4,942.99	5,215.87	-22.10	5.52	77,826.78	61,528.61	65,305.21	-16.09	6.14	11.62	12.45	12.52	7.75	0.56																												
Sesame.....		171,878.62	159,509.94	200,343.93	16.56	25.60	1,237,277.84	1,169,882.36	1,481,513.75	19.74	26.64	7.20	7.33	7.39	2.64	0.82																												
Rapeseed.....		11,976.25	11,008.25	4,868.15	-59.35	-55.78	219,044.83	204,329.70	90,569.04	-58.65	-55.68	18.29	18.56	18.60	1.69	0.22																												
TOTAL AREA IN HECTARES															TOTAL PRODUCTION IN QUINTALS															YIELD (QT/HA)														
Major Root Crops		Estimates Of		Forecast Of	% Change Of 2019/20 Over			Estimates Of		Forecast Of	% Change Of 2019/20 Over			Estimates Of		Forecast Of	% Change Of 2019/20 Over																											
		2017/18	2018/19		2017/18	2018/19	2017/18	2018/19	2017/18		2018/19	2017/18	2018/19	2017/18	2018/19																													
Total Root Crops		19,779.47	17,724.41	18,690.93	-5.50	5.45	2,988,415.67	2,692,482.01	2,862,819.07	-4.20	6.33																																	
Potatoes		19,199.47	17,175.42	18,108.77	-5.68	5.43	2,878,019.20	2,588,262.25	2,750,993.46	-4.41	629	149.90	150.70	151.91	1.34	0.80																												
Taro / 'Godere'		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																												
Sweet potatoes		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*																												
Number Of Trees Harvested				2018/19 Production In Quintals		2019/20 Expected Production In Quintals			2018/19 Yield (Qt/Ha)			2019/20 Expected Yield (Qt/Ha)																																
Crop Name	2018/19			2019/20	Amicho	Kocho	Bulla	Amicho	Kocho	Bulla	Amicho	Kocho	Bulla	Amicho	Kocho	Bulla																												
Enset	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																												

Table 4 :- Estimates Of Cropland Area, Expected Production and Yield Of Major Crops Forecast For Private Peasant Holdings : 2019/20 (2012 E.C), Main Season
OROMIA REGION

TOTAL AREA IN HECTARES						TOTAL PRODUCTION IN QUINTALS						YIELD (Qt/Ha)					
Major Crops	Estimates Of		Forecast Of	% Change Of 2019/20 Over		Estimates Of		Forecast Of	% Change Of 2019/20 Over		Estimates Of		Forecast Of	% Change Of 2019/20 Over			
	2017/18	2018/19		2019/20	2017/18	2018/19	2017/18		2018/19	2019/20	2017/18	2018/19		2019/20	2017/18	2018/19	
Total Grains....	5,757,293.43	5,764,272.99	5,764,646.61	0.13	0.01	151,080,010.79	155,393,448.31	162,383,019.94	7.48	4.50							
Cereals.....	4,797,159.00	4,858,959.99	4,886,780.76	1.87	0.57	133,797,762.19	139,168,163.36	146,443,680.00	9.45	5.23							
Teff.....	1,443,847.96	1,431,869.73	1,512,041.32	4.72	5.60	25,814,577.48	25,628,688.88	28,456,066.91	10.23	11.03	17.88	17.90	18.82	5.26	5.14		
Barley.....	451,279.26	386,569.22	372,910.96	-17.37	-3.53	10,884,876.60	9,325,076.44	9,047,866.57	-16.88	-2.97	24.12	24.12	24.26	0.58	0.58		
Wheat.....	898,682.57	897,118.00	897,236.50	-0.16	0.01	26,699,177.73	26,852,876.15	28,009,648.57	4.91	4.31	29.71	29.93	31.22	5.08	4.31		
Maize.....	1,146,899.78	1,324,274.98	1,390,841.48	21.27	5.03	46,767,440.66	54,383,119.44	59,816,852.64	27.90	9.99	40.78	41.07	43.01	5.47	4.72		
Sorghum....	735,263.79	718,966.58	629,724.86	-14.35	-12.41	20,810,667.34	20,531,636.06	19,017,520.85	-8.62	-7.37	28.30	28.56	30.20	6.71	5.74		
Finger Millet....	93,831.88	82,044.16	68,782.20	-26.70	-16.16	2,195,373.97	2,010,743.20	1,716,261.08	-21.82	-14.65	23.40	24.51	24.95	6.62	1.80		
Oats/'Aja'.....	21,253.56	11,212.68	8,310.97	-60.90	-25.88	459,136.99	246,785.17	183,293.66	-60.08	-25.73	21.60	22.01	22.05	2.08	0.18		
Rice.....	*	*	6,932.46	*	*	*	*	*	*	*	*	*	*	*	*		
Pulses.....	622,144.90	584,896.19	560,704.51	-9.88	-4.14	13,022,349.31	12,064,333.56	11,721,998.49	-9.99	-2.84							
Faba Beans	204,387.86	212,540.97	197,380.59	-3.43	-7.13	4,832,016.57	5,035,982.59	4,729,644.73	-2.12	-6.08	23.64	23.69	23.96	1.35	1.14		
Field Peas	83,683.51	83,372.40	84,213.74	0.63	1.01	1,578,701.92	1,534,473.67	1,552,978.95	-1.63	1.21	18.87	18.41	18.44	-2.28	0.16		
Wht Haricot beans	41,834.37	30,502.27	39,376.25	-5.88	29.09	717,879.69	509,614.93	689,841.74	-3.91	35.37	17.16	16.71	17.52	2.10	4.85		
Red - Haricot beans.	84,060.21	69,939.44	72,869.23	-13.31	4.19	1,597,865.00	1,304,278.93	1,444,666.31	-9.59	10.76	19.01	18.65	19.83	4.31	6.33		
Red Chick-Pea....	92,829.49	58,143.64	48,777.60	-47.45	-16.11	2,165,837.23	1,354,089.30	1,137,026.94	-47.50	-16.03	23.33	23.29	23.31	-0.09	0.09		
White Chick-Pea.	-	43,386.75	23,312.93	-	-46.27	-	678,580.63	378,747.84	-	-44.19	-	15.64	16.25	-	3.90		
Lentils.....	42,743.74	21,431.65	26,695.11	-37.55	24.56	706,006.25	344,202.40	429,738.37	-39.13	24.85	16.52	16.06	16.10	-2.54	0.25		
Grass Peas.....	40,148.65	36,443.97	36,472.98	-9.16	0.08	922,906.03	833,459.52	872,785.97	-5.43	4.72	22.99	22.87	23.93	4.09	4.63		
Soya Beans.....	9,611.04	11,719.31	10,119.38	5.29	-13.65	223,006.99	274,920.21	246,258.19	10.43	-10.43	23.20	23.46	24.34	4.91	3.75		
Fenugreek.....	16,418.43	9,905.06	7,828.17	-52.32	-20.97	214,598.86	123,864.49	98,830.42	-53.95	-20.21	13.07	12.51	12.62	-3.44	0.88		
Mung bean "Masho"	5,813.65	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
Gibto.....	*	*	-	-	-	-	*	-	-	-	-	*	-	-	-		
Oilseeds.....	337,989.53	320,416.81	317,161.34	-6.16	-1.02	4,259,899.29	4,160,951.39	4,217,341.45	-1.00	1.36							
Neug.....	193,670.58	182,196.91	167,065.70	-13.74	-8.30	2,338,153.43	2,257,909.58	2,146,966.13	-8.18	-4.91	12.07	12.39	12.85	6.46	3.71		
Linseed.....	46,443.46	55,049.13	47,953.38	3.25	-12.89	635,444.41	745,987.50	653,234.88	2.80	-12.43	13.68	13.55	13.62	-0.44	0.52		
Groundnut....	47,825.62	50,121.08	58,741.03	22.82	17.20	830,153.10	815,968.88	1,046,919.60	26.11	28.30	17.36	16.28	17.82	2.65	9.46		
Sufflower....	*	1,019.15	288.68	*	-71.67	*	12,719.42	3,635.99	*	-71.41	*	12.48	12.60	*	0.96		
Sesame.....	44,425.24	23,065.90	37,990.47	-14.48	64.70	349,067.23	158,598.34	269,794.27	-22.71	70.11	7.86	6.88	7.10	-9.67	3.20		
Rapeseed....	4,969.56	8,964.65	5,122.07	3.07	-42.86	98,580.10	169,767.69	96,790.58	-1.82	-42.99	19.84	18.94	18.90	-4.74	-0.21		
TOTAL AREA IN HECTARES						TOTAL PRODUCTION IN QUINTALS						YIELD (QT/Ha)					
Major Root Crops	Estimates Of		Forecast Of	% Change Of 2019/20 Over		Estimates Of		Forecast Of	% Change Of 2019/20 Over		Estimates Of		Forecast Of	% Change Of 2019/20 Over			
	2017/18	2018/19		2019/20	2017/18	2018/19	2017/18		2018/19	2019/20	2017/18	2018/19		2019/20	2017/18	2018/19	
Total Root Crops	61,093.01	59,210.37	58,942.12	-3.52	-0.45	16,374,480.54	15,365,366.56	15,642,873.73	-4.47	1.81							
Potatoes	38,925.67	36,414.07	36,622.44	-5.92	0.57	4,848,311.61	4,464,577.76	4,562,335.17	-5.90	2.19	124.55	122.61	124.58	0.02	1.61		
Taro / 'Godere'	5,371.59	7,706.11	6,686.20	24.47	-13.24	1,170,873.84	1,622,800.63	1,439,403.42	22.93	-11.30	217.98	210.59	215.28	-1.24	2.23		
Sweet potatoes	16,795.75	15,090.19	15,633.48	-6.92	3.60	10,355,295.09	9,277,988.17	9,641,135.14	-6.90	3.91	616.54	614.84	616.70	0.03	0.30		
Number Of Trees Harvested			To be Harvested 2019/20	2018/19 Production In Quintals			2019/20 Expected Production In Quintals			2018/19 Yield (Qt/Ha)			2019/20 Expected Yield (Qt/Ha)				
Crop Name		2018/19		Amicho	Kocho	Bulla	Amicho	Kocho	Bulla	Amicho	Kocho	Bulla	Amicho	Kocho	Bulla		
Enset		54,388,513.00	63,792,681.00	12,282,031.47	13,841,292.91	793,823.92	16,217,094.28	18,278,347.25	1,048,581.00	0.23	0.25	0.01	0.25	0.29	0.02		

**Table 6 :- Estimates Of Cropland Area, Expected Production and Yield Of Major Crops Forecast For Private Peasant Holdings : 2019/20 (2012 E.C), Main Season
BENISHANGUL-GUMUZ REGION**

TOTAL AREA IN HECTARES						TOTAL PRODUCTION IN QUINTALS						YIELD (Qt/Ha)				
Major Crops	Estimates Of		Forecast Of	% Change Of 2019/20 Over		Estimates Of		Forecast Of	% Change Of 2019/20 Over		Estimates Of		Forecast Of	% Change Of 2019/20 Over		
	2017/18	2018/19		2019/20	2017/18	2018/19	2017/18		2018/19	2019/20	2017/18	2018/19		2019/20	2017/18	2018/19
Total Grains....	253,409.72	253,681.56	254,102.73	0.27	0.17	5,818,801.22	6,272,383.51	6,574,639.91	12.99	4.82						
Cereals.....	169,256.31	179,253.07	178,196.15	5.28	-0.59	4,648,687.75	5,127,313.42	5,352,398.15	15.14	4.39						
Teff.....	24,529.72	29,726.64	27,130.09	10.60	-8.73	328,696.77	432,135.13	406,068.01	23.54	-6.03	13.40	14.54	14.97	11.72	2.96	
Barley.....	729.21	1,687.07	*	*	*	10,641.21	26,372.26	*	*	*	14.59	15.63	*	*	*	
Wheat.....	2,455.71	3,033.60	3,377.63	37.54	11.34	59,083.57	73,227.87	84,778.65	43.49	15.77	24.06	24.14	25.1	4.32	3.98	
Maize.....	50,681.11	62,287.85	61,948.91	22.23	-0.54	2,033,750.51	2,539,863.66	2,568,361.40	26.29	1.12	40.13	40.78	41.46	3.31	1.67	
Sorghum....	58,946.39	56,675.14	60,134.58	2.02	6.10	1,580,028.44	1,519,956.31	1,733,947.24	9.74	14.08	26.80	26.82	28.83	7.57	7.49	
Finger Millet....	29,167.48	21,311.26	17,548.80	-39.83	-17.65	577,713.03	426,554.87	363,091.12	-37.15	-14.88	19.81	20.02	20.69	4.44	3.35	
Oats/'Aja'.....	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Rice.....	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Pulses.....	22,791.67	30,505.61	31,192.16	36.86	2.25	445,232.52	596,098.82	646,629.91	45.23	8.48						
Faba Beans	878.29	998.71	787.66	-10.32	-21.13	16,835.16	19,984.78	16,113.92	-4.28	-19.37	19.17	20.01	20.46	6.73	2.25	
Field Peas	686.47	*	*	*	*	10,576.05	*	*	*	*	15.41	*	*	*	*	
Wht Haricot beans	2,046.19	*	2,210.17	8.01	12.03	38,435.61	*	41,338.05	7.55	12.31	18.78	*	18.7	-0.43	*	
Red - Haricot beans.	3,154.72	5,598.61	4,443.97	40.87	-20.62	54,889.24	97,097.14	78,594.71	43.19	-19.06	17.40	17.34	17.69	1.67	2.02	
Red Chick-Pea.....	423.60	*	*	-65.22	6.45	3,948.45	*	*	-61.04	16.31	9.32	*	*	*	*	
White Chick-Pea.	-	*	*	-	*	-	*	*	-	*	-	*	*	-	*	
Lentils.....	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Grass Peas.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Soya Beans.....	14,076.52	19,671.99	21,591.96	53.39	9.76	300,939.73	416,300.27	480,851.03	59.78	15.51	21.38	21.16	22.27	4.16	5.25	
Fenugreek.....	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Mung bean "Masho"	1,427.64	*	*	*	*	18,540.93	*	*	*	*	12.99	*	*	*	*	
Gibto.....	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Oilseeds.....	61,361.73	43,922.88	44,714.42	-27.13	1.80	724,880.95	548,971.27	575,611.85	-20.59	4.85						
Neug.....	11,053.55	11,650.53	12,138.56	9.82	4.19	86,882.01	98,041.78	114,853.16	32.19	17.15	7.86	8.42	9.46	20.36	12.35	
Linseed.....	*	973.23	675.65	*	-30.58	4,843.58	5,732.56	4,220.91	-12.86	-26.37	*	5.89	6.25	*	6.11	
Groundnut....	20,073.96	17,174.96	16,054.60	-20.02	-6.52	412,099.63	348,628.02	343,790.15	-16.58	-1.39	20.53	20.3	21.41	4.29	5.47	
Sufflower....	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Sesame.....	29,033.19	14,026.78	15,764.86	-45.70	12.39	213,686.50	94,920.27	111,395.61	-47.87	17.36	7.36	6.77	7.07	-3.94	4.43	
Rapeseed.....	135.94	*	80.75	-40.60	*	*	*	1,352.01	*	*	*	*	16.74	*	*	
TOTAL AREA IN HECTARES						TOTAL PRODUCTION IN QUINTALS						YIELD (QT/HA)				
Major Root Crops	Estimates Of		Forecast Of	% Change Of 2019/20 Over		Estimates Of		Forecast Of	% Change Of 2019/20 Over		Estimates Of		Forecast Of	% Change Of 2019/20 Over		
	2017/18	2018/19		2019/20	2017/18	2018/19	2017/18		2018/19	2019/20	2017/18	2018/19		2019/20	2017/18	2018/19
Total Root Crops	1,192.57	2,452.80	1,812.42	51.98	-26.11	208,546.53	433,711.47	326,256.34	56.44	-24.78						
Potatoes	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Taro / 'Godere'	62.14	67.79	77.43	24.61	*	23,441.13	*	31,500.40	34.38	*	377.23	*	406.82	7.84	*	
Sweet potatoes	979.86	890.41	753.58	-23.09	-15.37	157,876.65	129,569.77	110,615.71	-29.94	-14.63	161.12	145.52	146.79	-8.89	0.87	
Number Of Trees Harvested			To be Harvested 2019/20	2018/19 Production In Quintals			2019/20 Expected Production In Quintals			2018/19 Yield (Qt/Ha)			2019/20 Expected Yield (Qt/Ha)			
Crop Name				Amicho	Kocho	Bulla	Amicho	Kocho	Bulla	Amicho	Kocho	Bulla	Amicho	Kocho	Bulla	
Enset			*	*	*	*	*	*	*	*	*	*	*	*	*	

Table 7 :- Estimates Of Cropland Area, Expected Production and Yield Of Major Crops Forecast For Private Peasant Holdings : 2019/20 (2012 E.C), Main Season
S.N.N.P REGION

TOTAL AREA IN HECTARES						TOTAL PRODUCTION IN QUINTALS						YIELD (Qt/Ha)				
Major Crops	Estimates Of		Forecast Of	% Change Of 2019/20 Over		Estimates Of		Forecast Of	% Change Of 2019/20 Over		Estimates Of		Forecast Of	% Change Of 2019/20 Over		
	2017/18	2018/19		2019/20	2017/18	2018/19	2017/18		2018/19	2019/20	2017/18	2018/19		2019/20	2017/18	2018/19
Total Grains....	1,133,354.78	1,159,993.92	1,176,892.85	3.84	1.46	27,640,228.02	28,980,614.95	31,598,213.25	14.32	9.03						
Cereals.....	892,133.80	923,391.79	954,404.39	6.98	3.36	23,631,256.61	24,971,332.26	27,680,137.46	17.13	10.85						
Teff.....	248,124.17	236,532.28	243,613.39	-1.82	2.99	3,704,149.19	3,508,286.48	3,837,577.06	3.60	9.39	14.93	14.83	15.75	5.49	6.20	
Barley.....	81,161.32	93,643.58	89,967.31	10.85	-3.93	1,545,047.18	1,818,938.69	1,755,671.49	13.63	-3.48	19.04	19.42	19.51	2.47	0.46	
Wheat.....	127,246.59	151,583.20	145,106.35	14.04	-4.27	3,391,959.51	4,028,574.55	4,007,719.50	18.15	-0.52	26.66	26.58	27.62	3.60	3.91	
Maize.....	314,535.17	320,078.03	356,365.90	13.30	11.34	11,969,670.78	12,575,816.30	14,924,388.59	24.69	18.68	38.06	39.29	41.88	10.04	6.59	
Sorghum....	112,193.73	102,872.44	102,785.55	-8.39	-0.08	2,852,640.82	2,684,329.22	2,840,996.94	-0.41	5.84	25.43	26.09	27.64	8.69	5.94	
Finger Millet....	4,485.63	9,670.25	10,901.17	143.02	12.73	72,050.19	153,812.02	175,503.75	143.59	14.10	16.06	15.91	16.1	0.25	1.19	
Oats/'Aja'.....	337.60	368.68	*	*	*	5,018.64	5,382.95	*	*	*	14.87	14.60	*	*	*	
Rice.....	*	*	5,418.29	*	*	*	*	134,402.53	*	*	*	*	24.81	*	*	
Pulses.....	235,795.37	230,386.63	217,551.00	-7.74	-5.57	3,965,849.40	3,947,174.28	3,867,392.17	-2.48	-2.02						
Faba Beans	70,378.58	74,598.17	74,803.86	6.29	0.28	1,358,496.58	1,492,606.04	1,498,071.67	10.27	0.37	19.30	20.01	20.03	3.78	0.10	
Field Peas	49,662.53	41,555.64	46,441.59	-6.49	11.76	762,460.11	669,220.60	776,930.97	1.90	16.09	15.35	16.10	16.73	8.99	3.91	
Wht Haricot beans	5,142.25	4,551.17	7,198.07	39.98	58.16	86,186.97	78,330.80	129,472.61	50.22	65.29	16.76	17.21	17.99	7.34	4.53	
Red - Haricot beans.	97,694.18	94,580.26	75,053.61	-23.17	-20.65	1,529,627.02	1,479,383.96	1,249,746.21	-18.30	-15.52	15.66	15.64	16.65	6.32	6.46	
Red Chick-Pea	*	5,893.82	4,354.36	*	-26.12	*	*	89,512.01	*	*	*	*	20.56	*	*	
White Chick-Pea	-	4,678.09	3,148.74	-	-32.69	-	*	40,191.48	-	*	-	*	12.76	-	*	
Lentils.....	603.32	399.46	797.80	32.23	99.72	6,184.01	4,114.64	9,002.06	45.57	118.78	10.25	10.30	11.28	10.05	9.51	
Grass Peas.....	*	247.03	*	*	*	*	4,370.58	*	*	*	*	17.69	*	*	*	
Soya Beans.....	*	1,476.28	1,724.90	*	16.84	*	19,929.86	23,468.28	*	17.75	*	13.50	13.61	*	0.81	
Fenugreek.....	122.14	*	180.16	47.50	*	1,150.63	*	1,975.64	71.70	*	9.42	*	10.97	16.45	*	
Mung bean "Masho"	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Gibto.....	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Oilseeds.....	5,425.60	6,215.50	4,937.46	-9.00	-20.56	43,122.00	62,108.41	50,683.62	17.54	-18.39						
Neug.....	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Linseed.....	852.98	800.53	507.01	-40.56	-36.67	5,421.68	6,170.74	4,077.31	-24.80	-33.93	6.36	7.71	8.04	26.42	4.28	
Groundnut....	1,045.16	*	1,347.12	28.89	-26.69	14,980.64	*	20,909.00	39.57	-22.56	14.33	*	15.52	8.30	5.65	
Sufflower....	308.54	*	*	67.56	30.83	3,982.26	*	*	68.12	36.90	12.91	*	*	0.31	4.60	
Sesame.....	*	*	1,852.82	*	*	*	*	11,123.31	*	*	*	*	6.00	*	*	
Rapeseed.....	860.47	611.42	*	*	*	8,850.50	6,660.41	*	*	*	10.29	10.89	*	*	*	
TOTAL AREA IN HECTARES						TOTAL PRODUCTION IN QUINTALS						YIELD (QT/Ha)				
Major Root Crops	Estimates Of		Forecast Of	% Change Of 2019/20 Over		Estimates Of		Forecast Of	% Change Of 2019/20 Over		Estimates Of		Forecast Of	% Change Of 2019/20 Over		
	2017/18	2018/19		2019/20	2017/18	2018/19	2017/18		2018/19	2019/20	2017/18	2018/19		2019/20	2017/18	2018/19
Total Root Crops	86,182.75	90,744.74	89,287.86	3.60	-1.61	20,344,007.51	21,434,282.19	21,881,768.74	7.56	2.09						
Potatoes	10,771.22	17,927.72	11,285.27	4.77	-37.05	1,893,783.89	3,067,437.91	1,968,758.33	3.96	-35.82	175.82	171.10	174.45	-0.78	1.96	
Taro / 'Godere'	40,543.04	48,228.21	53,483.11	31.92	10.90	10,603,454.35	12,983,367.56	14,445,539.27	36.23	11.26	261.54	269.21	270.10	3.27	0.33	
Sweet potatoes	34,868.49	24,588.81	24,519.48	-29.68	-0.28	7,846,769.27	5,383,476.72	5,467,471.14	-30.32	1.56	225.04	218.94	222.98	-0.92	1.85	
Number Of Trees Harvested			To be Harvested	2018/19 Production In Quintals			2019/20 Expected Production In Quintals			2018/19 Yield (Qt/Ha)			2019/20 Expected Yield (Qt/Ha)			
Crop Name		2018/19		Amicho	Kocho	Bulla	Amicho	Kocho	Bulla	Amicho	Kocho	Bulla	Amicho	Kocho	Bulla	
Enset		81,608,352.00	82,173,745.00	22,188,223.70	24,632,073.29	370,870.20	24,020,044.22	26,661,452.77	397,538.96	0.27	0.30	*	0.29	0.32	*	

Table 8 :- Estimates Of Cropland Area, Expected Production and Yield Of Major Crops Forecast For Private Peasant Holdings : 2019/20 (2012 E.C), Main Season															
HARARI REGION															
TOTAL AREA IN HECTARES						TOTAL PRODUCTION IN QUINTALS					YIELD (Qt/Ha)				
Major Crops	Estimates		Forecast	% Change Of		Estimates		Forecast	% Change Of		Estimates		Forecast	% Change Of	
	Of			Of	2019/20 Over	Of			Of	2019/20 Over	Of			Of	2019/20 Over
	2017/18	2018/19	2019/20	2017/18	2018/19	2017/18	2018/19	2019/20	2017/18	2018/19	2017/18	2018/19	2019/20	2017/18	2018/19
Total Grains....	11,570.41	11,454.92	11,785.60	1.86	2.89	206,235.11	181,866.10	221,898.80	7.60	22.01					
Cereals.....	8,825.77	9,202.89	9,755.43	10.53	6.00	173,698.68	166,175.25	204,600.74	17.79	23.12					
Teff.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barley.....	*	*	-	-	-	*	*	-	-	-	*	*	-	-	-
Wheat.....	*	38.07	101.07	*	165.48	*	514.37	1,542.22	*	199.83	*	13.51	15.26	*	12.95
Maize.....	1,397.66	1,154.09	1,712.35	22.52	48.37	33,827.52	25,000.33	39,632.92	17.16	58.53	24.20	21.66	23.15	-4.34	6.88
Sorghum....	7,316.23	7,991.36	7,942.01	8.55	-0.62	138,376.75	140,590.21	163,425.61	18.10	16.24	18.91	17.59	20.58	8.83	17.00
Finger Millet....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oats/'Aja'.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rice.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pulses.....	22.69	*	*	-88.59	-90.59	120.64	*	*	*	*					
Faba Beans	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wht Haricot beans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Red - Haricot beans.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Red Chick-Pea....	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
White Chick-Pea...	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lentils.....	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Grass Peas.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soya Beans.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fenugreek.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mung bean "Masho"	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gibto.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oilseeds.....	2,721.95	2,224.52	2,027.58	-25.51	-8.85	32,415.78	15,573.31	17,278.73	-46.70	10.95					
Neug.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Linseed.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnut....	2,658.52	2,222.13	2,021.83	-23.95	-9.01	32,058.60	15,558.68	17,240.60	-46.22	10.81	12.06	7.00	8.53	-29.27	21.86
Sufflower....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sesame.....	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Rapeseed....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL AREA IN HECTARES						TOTAL PRODUCTION IN QUINTALS					YIELD (QT/Ha)				
Major Root Crops	Estimates		Forecast	% Change Of		Estimates		Forecast	% Change Of		Estimates		Forecast	% Change Of	
	Of			Of	2019/20 Over	Of			Of	2019/20 Over	Of			Of	2019/20 Over
	2017/18	2018/19	2019/20	2017/18	2018/19	2017/18	2018/19	2019/20	2017/18	2018/19	2017/18	2018/19	2019/20	2017/18	2018/19
Total Root Crops	92.39	116.09	71.07	-23.08	-38.78	13,799.93	15,834.90	12,517.19	-9.30	-20.95					
Potatoes	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Taro / 'Godere'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sweet potatoes	75.77	87.69	68.64	-9.41	-21.72	13,799.93	15,834.90	12,517.19	-9.30	-20.95	182.13	180.58	182.36	0.13	0.99
Number Of Trees		To be	2018/19 Production			2019/20			2018/19 Yield			2019/20			
Harvested			Harvested	In Quintals			Expected Production In Quintals			Qt/Ha)			Expected Yield (Qt/Ha)		
Crop Name	2018/19	2019/20	Amicho	Kocho	Bulla	Amicho	Kocho	Bulla	Amicho	Kocho	Bulla	Amicho	Kocho	Bulla	
Enset	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

**Table 9 :- Estimates Of Cropland Area, Expected Production and Yield Of Major Crops Forecast For Private Peasant Holdings : 2019/20 (2012 E.C), Main Season
DIRE DAWA REGION**

TOTAL AREA IN HECTARES						TOTAL PRODUCTION IN QUINTALS						YIELD (Qt/Ha)					
Major Crops	Estimates Of		Forecast Of	% Change Of		Estimates Of		Forecast Of	% Change Of		Estimates Of		Forecast Of	% Change Of			
	2017/18	2018/19		2019/20	2017/18	2018/19	2017/18		2018/19	2019/20	2017/18	2018/19		2019/20	2017/18	2018/19	
Total Grains....	12,025.66	11,948.19	12,127.55	0.85	1.50	228,847.96	182,391.17	233,604.56	2.08	28.08							
Cereals.....	11,124.90	11,139.83	11,415.83	2.62	2.48	215,096.23	174,047.02	225,437.89	4.81	29.53							
Teff.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Barley.....	-	*	*	-	*	-	*	*	-	*	-	*	*	-	*		
Wheat.....	-	*	-	-	-	-	-	-	-	-	-	-	-	-	-		
Maize.....	304.17	204.40	282.34	-7.18	38.13	6,296.35	2,753.87	3,972.47	-36.91	44.25	20.70	13.47	14.07	-32.03	4.45		
Sorghum....	10,820.72	10,914.71	11,126.18	2.82	1.94	208,799.88	171,282.87	221,437.04	6.05	29.28	19.30	15.69	19.9	3.11	26.83		
Finger Millet....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Oats/'Aja'.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Rice.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Pulses.....	525.91	466.65	433.35	-17.60	-7.14	8,810.82	5,214.94	5,321.84	-39.60	2.05							
Faba Beans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Field Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Wht Haricot beans	206.48	286.63	*	*	*	3,097.87	2,944.56	*	*	*	15.00	10.27	*	*	*		
Red - Haricot beans.	319.43	179.95	*	*	*	5,712.96	2,270.37	*	*	*	17.88	12.62	*	*	*		
Red Chick-Pea.....	-	-	*	-	-	-	-	-	-	-	-	-	-	-	-		
White Chick-Pea...	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Lentils.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Grass Peas.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Soya Beans.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Fenugreek.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Mung bean "Masho"	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Gibto.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Oilseeds.....	*	341.71	*	-25.74	-18.53	*	*	2,844.84	-42.42	-9.09							
Neug.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Linseed.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Groundnut....	*	*	*	-11.56	-18.33	*	*	*	*	*	*	*	*	*	*		
Sufflower....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Sesame.....	102.98	47.30	*	*	*	1,074.33	160.76	*	*	*	10.43	3.40	*	*	*		
Rapeseed.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
TOTAL AREA IN HECTARES						TOTAL PRODUCTION IN QUINTALS						YIELD (QT/Ha)					
Major Root Crops	Estimates Of		Forecast Of	% Change Of		Estimates Of		Forecast Of	% Change Of		Estimates Of		Forecast Of	% Change Of			
	2017/18	2018/19		2019/20	2017/18	2018/19	2017/18		2018/19	2019/20	2017/18	2018/19		2019/20	2017/18	2018/19	
Total Root Crops	*	*	*	*	*	*	*	*	*	*							
Potatoes	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
Taro / 'Godere'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Sweet potatoes	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
Number Of Trees Harvested			To be Harvested	2018/19 Production			2019/20			2018/19 Yield			2019/20				
Crop Name		2018/19		In Quintals			Expected Production In Quintals			(Qt/Ha)			Expected Yield (Qt/Ha)				
			Amicho	Kocho	Bulla	Amicho	Kocho	Bulla	Amicho	Kocho	Bulla	Amicho	Kocho	Bulla			
Enset		-	-	-	-	-	-	-	-	-	-	-	-	-			

APPENDIX I

Estimation Procedures of Totals, Ratios and Sampling Errors

Appendix I Estimation Procedures of Totals, Ratios and Sampling Errors

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

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

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

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

Where:

- h Represents the stratum;
- n_h is the total number of sample EAs successfully covered in the h^{th} stratum;
- M_h is the measure of size of the h^{th} stratum as obtained from the sampling frame;
- m_{hi} is the measure of size of the i^{th} sample EA in the h^{th} stratum obtained from the sampling frame;
- H_{hi} is the number of households of the i^{th} sample EA in the h^{th} stratum;
- h_{hi} is the number of sample agricultural households successfully covered in the i^{th} sample EA in the h^{th} stratum;
- y_{hij} is the observed value of the variable y for agricultural households j , in the i^{th} EA in the h^{th} stratum;
- and
- \hat{Y}_h Represents estimated total for stratum h .

2. Sampling Variance of Estimates:

Sampling variance for the estimate of stratum total of area and production are estimated by the following formulas.

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

Where:

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

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

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

$$Var(\hat{Y}) = \sum_h^L Var(\hat{Y}_h)$$

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

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

3. Coefficient of Variation (CV) of Estimates:

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

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

4. Estimator of Ratio:

The estimator of a given ratio in a stratum is $\hat{R}_h = \frac{\hat{Y}_h}{\hat{X}_h}$,

Where, the numerator and the denominator are estimates of stratum totals of characteristics of y and x, respectively.

5. Variance of the ratio estimate of the stratum

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

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

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

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

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

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

APPENDIX II

Standard Errors and Coefficient of Variations for Cropped Land Area and Expected Production

Appendix II. Standard Errors and Coefficient of Variations for the Estimates of Area and Expected Production, 2019/20 (2012 E.C) Pre-Harvest Crop Production Forecast Sample Survey

COUNTRY LEVEL						
CROP	AREA IN HECTARES			PRODUCTION IN QUINTALS		
	Estimate	S.E.	C.V. In %	Estimate	S.E.	C.V. In %
Total Grains....	12,773,911.58	223,410.99	1.76	329,281,366.98	6,380,245.53	1.95
Cereals.....	10,421,645.78	183,055.69	1.77	291,090,949.29	5,798,283.76	2.01
<i>Teff.....</i>	<i>3,151,721.06</i>	98,034.40	3.11	<i>58,085,410.32</i>	1,899,179.46	3.27
<i>Barley.....</i>	<i>801,716.17</i>	43,287.73	5.40	<i>17,511,877.94</i>	1,033,873.70	5.90
<i>Wheat.....</i>	<i>1,748,149.97</i>	82,293.43	4.72	<i>50,371,888.47</i>	2,497,509.68	4.97
<i>Maize.....</i>	<i>2,447,164.88</i>	79,674.75	3.30	<i>102,019,166.25</i>	3,705,885.37	3.66
<i>Sorghum....</i>	<i>1,785,227.99</i>	74,537.50	4.29	<i>51,077,960.61</i>	2,293,431.96	4.59
<i>Finger Millet....</i>	<i>416,733.01</i>	25,884.97	6.21	<i>10,102,110.74</i>	650,116.02	6.44
<i>Oats/'Aja'.....</i>	<i>11,057.55</i>	2,339.63	21.16	<i>225,734.52</i>	51,511.14	22.82
<i>Rice.....</i>	<i>59,875.15</i>	13,917.13	23.39	<i>1,696,800.43</i>	414,125.38	24.41
Pulses.....	1,576,175.26	58,391.16	3.71	30,027,095.89	1,201,479.04	4.00
<i>Faba Beans</i>	<i>469,911.63</i>	19,712.14	4.19	<i>10,151,486.32</i>	438,859.23	4.32
<i>Field Peas</i>	<i>218,658.90</i>	13,220.53	6.05	<i>3,684,433.96</i>	234,591.61	6.37
<i>Whight Haricot beans...</i>	<i>98,526.00</i>	14,191.83	14.41	<i>1,714,291.99</i>	284,844.41	16.62
<i>Red - Haricot beans....</i>	<i>175,121.76</i>	21,532.74	12.35	<i>3,152,488.37</i>	409,461.87	13.00
<i>Red Chick-Pea.....</i>	<i>144,237.97</i>	16,567.56	11.49	<i>2,962,116.75</i>	346,629.98	11.70
<i>White Chick-Pea.....</i>	<i>50,452.60</i>	11,772.20	23.33	<i>882,015.89</i>	189,452.20	21.48
<i>Lentils.....</i>	<i>103,891.08</i>	12,435.96	11.97	<i>1,479,772.83</i>	190,890.51	12.90
<i>Grass Peas.....</i>	<i>129,325.99</i>	19,173.07	14.83	<i>2,628,006.93</i>	388,181.80	14.77
<i>Soya Beans.....</i>	<i>84,464.92</i>	22,860.72	27.07	<i>2,086,913.88</i>	601,358.63	28.82
<i>Fenugreek.....</i>	<i>15,090.75</i>	3,105.00	20.58	<i>195,471.08</i>	44,712.65	22.87
<i>Mung bean "Masho"..</i>	<i>63,638.36</i>	13,379.17	21.62	<i>766,449.68</i>	159,483.56	21.31
<i>Gibto.....</i>	<i>22,855.30</i>	7,572.38	33.13	<i>323,648.21</i>	109,971.37	33.98
Oilseeds.....	776,090.54	47,308.77	6.12	8,163,321.81	500,134.11	6.16
<i>Neug.....</i>	<i>237,122.42</i>	23,808.14	10.04	<i>2,824,891.58</i>	300,536.97	10.64
<i>Linseed.....</i>	<i>69,994.63</i>	9,922.30	14.18	<i>823,051.92</i>	133,711.04	16.25
<i>Groundnut....</i>	<i>88,267.87</i>	13,287.74	15.42	<i>1,617,152.61</i>	248,325.40	15.81
<i>Sufflower....</i>	<i>6,086.18</i>	1,211.04	19.94	<i>76,094.38</i>	16,839.58	22.13
<i>Sesame.....</i>	<i>364,054.13</i>	37,842.74	10.41	<i>2,627,767.85</i>	277,808.54	10.58
<i>Rapeseed.....</i>	<i>10,565.31</i>	1,276.42	12.08	<i>194,363.46</i>	22,863.44	11.76
Root crops....	169,704.40	11,917.62	7.03	40,775,242.22	2,845,908.19	6.98
<i>Potatoes.....</i>	<i>67,627.18</i>	9,113.48	13.48	<i>9,515,234.34</i>	1,164,596.35	12.24
<i>Taro / 'Godere'....</i>	<i>60,309.95</i>	7,048.22	11.70	<i>15,916,443.09</i>	1,999,830.50	12.56
<i>Sweet potatoes....</i>	<i>41,767.27</i>	3,338.76	8.02	<i>15,343,564.79</i>	1,682,692.54	10.97

TIGRAY REGION						
CROP	AREA IN HECTARES			PRODUCTION IN QUINTALS		
	Estimate	S.E.	C.V. In %	Estimate	S.E.	C.V. In %
Total Grains....	945,349.76	43,424.15	4.59	20,076,255.59	954,443.31	4.75
Cereals.....	777,124.71	34,100.71	4.39	18,387,291.04	898,678.33	4.89
<i>Teff.....</i>	166,718.86	13,564.35	8.14	2,790,811.58	235,243.86	8.43
<i>Barley.....</i>	94,845.64	8,406.11	8.86	1,763,595.49	161,107.69	9.14
<i>Wheat.....</i>	121,471.10	10,790.57	8.88	2,593,398.41	232,059.86	8.95
<i>Maize.....</i>	69,865.24	7,008.57	10.03	1,886,451.36	182,623.62	9.68
<i>Sorghum....</i>	239,044.72	19,740.37	8.26	7,206,253.44	649,604.73	9.01
<i>Finger Millet....</i>	84,868.47	9,773.22	11.52	2,139,061.49	254,609.57	11.90
<i>Oats/'Aja'.....</i>	30.99	30.97	99.94	631.48	631.10	99.94
<i>Rice..... ..</i>	279.69	278.31	99.51	7,087.79	7,052.99	99.51
Pulses.....	50,230.35	4,579.96	9.12	794,209.23	74,525.26	9.38
<i>Faba Beans</i>	11,806.66	1,668.00	14.13	203,077.26	27,618.10	13.60
<i>Field Peas</i>	8,563.12	1,605.60	18.75	132,746.29	27,197.13	20.49
<i>Whight Haricot beans...</i>	4,608.92	2,383.72	51.72	69,190.40	37,190.97	53.75
<i>Red - Haricot beans....</i>	1,048.12	600.06	57.25	13,693.51	9,437.84	68.92
<i>Red Chick-Pea.....</i>	6,594.32	1,667.52	25.29	114,764.78	30,044.87	26.18
<i>White Chick-Pea.....</i>	159.00	158.52	99.70	2,674.46	2,666.31	99.70
<i>Lentils..... ..</i>	8,242.41	1,681.21	20.40	107,160.49	19,538.23	18.23
<i>Grass Peas.....</i>	7,472.81	1,686.15	22.56	134,662.21	30,759.20	22.84
<i>Soya Beans.....</i>	275.65	152.30	55.25	2,593.23	1,495.22	57.66
<i>Fenugreek.....</i>	1,016.78	534.65	52.58	8,783.98	4,783.87	54.46
<i>Mung bean "Masho"..</i>	442.56	439.10	99.22	4,862.63	4,824.59	99.22
<i>Gibto.....</i>	-	-	-	-	-	-
Oilseeds.....	117,994.69	18,032.72	15.28	894,755.32	110,220.03	12.32
<i>Neug.....</i>	6,014.82	1,995.05	33.17	92,813.16	30,912.11	33.31
<i>Linseed.....</i>	3,327.12	612.90	18.42	36,607.90	6,823.65	18.64
<i>Groundnut....</i>	1,028.16	971.03	94.44	12,374.33	11,783.77	95.23
<i>Sufflower....</i>	52.67	42.81	81.28	458.15	378.18	82.55
<i>Sesame.....</i>	107,540.13	18,453.22	17.16	752,195.08	114,625.44	15.24
<i>Rapeseed.....</i>	31.79	16.25	51.12	306.70	163.35	53.26
<i>Root crops....</i>	619.83	256.91	41.45	49,007.16	20,859.55	42.56
<i>Potatoes.....</i>	618.38	256.91	41.54	49,007.16	20,859.55	42.56
<i>Taro / 'Godere'....</i>	-	-	-	-	-	-
<i>Sweet potatoes....</i>	-	-	-	-	-	-

AMHARA REGION						
CROP	AREA IN HECTARES			PRODUCTION IN QUINTALS		
	Estimate	S.E.	C.V. In %	Estimate	S.E.	C.V. In %
Total Grains....	4,518,123.62	131,618.12	2.91	106,137,996.73	3,293,103.37	3.10
Cereals.....	3,518,206.10	100,056.17	2.84	90,810,498.01	2,827,720.81	3.11
<i>Teff.....</i>	1,201,283.74	59,125.26	4.92	22,582,406.00	1,156,393.04	5.12
<i>Barley.....</i>	242,470.69	19,627.37	8.09	4,922,062.24	418,118.20	8.49
<i>Wheat.....</i>	575,015.31	40,075.25	6.97	15,583,799.90	1,104,375.50	7.09
<i>Maize.....</i>	534,007.80	26,585.56	4.98	21,958,807.25	1,158,594.10	5.28
<i>Sorghum....</i>	688,114.09	47,323.38	6.88	18,831,823.38	1,389,288.40	7.38
<i>Finger Millet....</i>	234,632.36	22,208.86	9.47	5,708,193.30	556,097.91	9.74
<i>Oats/'Aja'.....</i>	2,469.16	696.10	28.19	37,931.79	11,515.66	30.36
<i>Rice..... ..</i>	40,212.95	12,540.92	31.19	1,185,474.15	379,111.76	31.98
Pulses.....	713,565.61	42,452.24	5.95	12,970,733.90	885,429.51	6.83
<i>Faba Beans</i>	185,130.62	12,673.63	6.85	3,704,578.74	255,135.11	6.89
<i>Field Peas</i>	78,546.76	7,973.75	10.15	1,206,878.55	129,706.88	10.75
<i>Whight Haricot beans...</i>	44,874.93	8,671.28	19.32	781,584.09	164,133.85	21.00
<i>Red - Haricot beans....</i>	20,804.57	6,873.97	33.04	360,738.18	131,485.28	36.45
<i>Red Chick-Pea.....</i>	84,363.52	12,888.21	15.28	1,619,274.67	238,763.02	14.75
<i>White Chick-Pea.....</i>	23,820.90	10,004.98	42.00	460,402.11	159,761.67	34.70
<i>Lentils..... ..</i>	68,154.94	8,020.58	11.77	933,871.91	115,835.72	12.40
<i>Grass Peas.....</i>	85,379.60	17,631.35	20.65	1,620,548.13	343,264.71	21.18
<i>Soya Beans.....</i>	50,742.58	21,790.17	42.94	1,333,743.15	579,246.76	43.43
<i>Fenugreek.....</i>	6,060.12	1,590.88	26.25	85,881.04	23,981.47	27.92
<i>Mung bean "Masho"..</i>	42,920.94	7,829.48	18.24	540,654.62	112,846.30	20.87
<i>Gibto.....</i>	22,766.12	7,571.94	33.26	322,578.72	109,966.28	34.09
Oilseeds.....	286,351.90	31,046.79	10.84	2,356,764.83	258,618.97	10.97
<i>Neug.....</i>	51,647.63	10,810.70	20.93	467,725.30	101,443.23	21.69
<i>Linseed.....</i>	17,531.40	2,340.59	13.35	124,910.92	15,923.05	12.75
<i>Groundnut....</i>	6,744.93	3,309.26	49.06	126,740.61	62,411.23	49.24
<i>Sufflower....</i>	5,215.87	1,164.72	22.33	65,305.21	15,924.12	24.38
<i>Sesame.....</i>	200,343.93	28,606.24	14.28	1,481,513.75	223,632.02	15.09
<i>Rapeseed.....</i>	4,868.15	851.76	17.50	90,569.04	15,959.71	17.62
<i>Root crops....</i>	18,690.93	2,675.80	14.32	2,862,819.07	425,563.90	14.87
<i>Potatoes.....</i>	18,108.77	2,654.39	14.66	2,750,993.46	419,444.72	15.25
<i>Taro / 'Godere'....</i>	-	-	-	-	-	-
<i>Sweet potatoes....</i>	582.16	402.55	69.15	111,825.61	81,440.22	72.83

OROMIA REGION						
CROP	AREA IN HECTARES			PRODUCTION IN QUINTALS		
	Estimate	S.E.	C.V. In %	Estimate	S.E.	C.V. In %
Total Grains....	5,764,646.61	163,681.41	2.84	162,383,019.94	5,100,093.00	3.14
Cereals.....	4,886,780.76	140,057.62	2.87	146,443,680.00	4,734,622.07	3.23
<i>Teff.....</i>	1,512,041.32	73,590.48	4.87	28,456,066.91	1,443,506.99	5.07
<i>Barley.....</i>	372,910.96	36,650.51	9.83	9,047,866.57	916,545.69	10.13
<i>Wheat.....</i>	897,236.50	69,424.64	7.74	28,009,648.57	2,188,512.88	7.81
<i>Maize.....</i>	1,390,841.48	70,284.99	5.05	59,816,852.64	3,352,990.83	5.61
<i>Sorghum....</i>	629,724.86	52,235.03	8.29	19,017,520.85	1,656,373.07	8.71
<i>Finger Millet....</i>	68,782.20	7,999.13	11.63	1,716,261.08	205,745.44	11.99
<i>Oats/'Aja'.....</i>	8,310.97	2,227.07	26.80	183,293.66	50,123.46	27.35
<i>Rice..... ..</i>	6,932.46	3,208.28	46.28	196,169.72	103,714.49	52.87
Pulses.....	560,704.51	36,505.30	6.51	11,721,998.49	752,231.91	6.42
<i>Faba Beans</i>	197,380.59	12,971.82	6.57	4,729,644.73	319,963.34	6.77
<i>Field Peas</i>	84,213.74	8,312.98	9.87	1,552,978.95	163,224.94	10.51
<i>Whight Haricot beans...</i>	39,376.25	10,840.03	27.53	689,841.74	227,818.72	33.02
<i>Red - Haricot beans....</i>	72,869.23	18,764.50	25.75	1,444,666.31	364,251.98	25.21
<i>Red Chick-Pea.....</i>	48,777.60	10,065.94	20.64	1,137,026.94	245,615.62	21.60
<i>White Chick-Pea.....</i>	23,312.93	6,094.16	26.14	378,747.84	100,871.82	26.63
<i>Lentils..... ..</i>	26,695.11	9,348.33	35.02	429,738.37	150,411.56	35.00
<i>Grass Peas.....</i>	36,472.98	7,341.61	20.13	872,785.97	178,629.00	20.47
<i>Soya Beans.....</i>	10,119.38	4,679.04	46.24	246,258.19	115,487.17	46.90
<i>Fenugreek.....</i>	7,828.17	2,611.71	33.36	98,830.42	37,426.45	37.87
<i>Mung bean "Masho"..</i>	13,658.53	10,608.52	77.67	141,479.02	108,861.44	76.95
<i>Gibto.....</i>	-	-	-	-	-	-
Oilseeds.....	317,161.34	30,171.30	9.51	4,217,341.45	405,592.38	9.62
<i>Neug.....</i>	167,065.70	20,924.23	12.52	2,146,966.13	279,883.40	13.04
<i>Linseed.....</i>	47,953.38	9,619.56	20.06	653,234.88	132,572.84	20.29
<i>Groundnut....</i>	58,741.03	12,485.72	21.26	1,046,919.60	231,916.71	22.15
<i>Sufflower....</i>	288.68	109.22	37.83	3,635.99	1,456.70	40.06
<i>Sesame.....</i>	37,990.47	16,075.13	42.31	269,794.27	115,173.61	42.69
<i>Rapeseed.....</i>	5,122.07	915.59	17.88	96,790.58	16,089.28	16.62
<i>Root crops....</i>	58,942.12	8,730.64	14.81	15,642,873.73	1,869,522.00	11.95
<i>Potatoes.....</i>	36,622.44	8,419.89	22.99	4,562,335.17	1,011,212.84	22.16
<i>Taro / 'Godere'....</i>	6,686.20	1,148.12	17.17	1,439,403.42	250,338.60	17.39
<i>Sweet potatoes....</i>	15,633.48	2,311.84	14.79	9,641,135.14	1,588,339.63	16.47

Benishangul Gumuz Region						
CROP	AREA IN HECTARES			PRODUCTION IN QUINTALS		
	Estimate	S.E.	C.V. In %	Estimate	S.E.	C.V. In %
Total Grains....	254,102.73	19,662.25	7.74	6,574,639.91	520,651.48	7.92
Cereals.....	178,196.15	13,231.14	7.43	5,352,398.15	414,226.13	7.74
<i>Teff.....</i>	27,130.09	7,512.93	27.69	406,068.01	112,805.43	27.78
<i>Barley.....</i>	1,396.13	803.47	57.55	22,485.50	13,081.52	58.18
<i>Wheat.....</i>	3,377.63	1,374.49	40.69	84,778.65	35,741.41	42.16
<i>Maize.....</i>	61,948.91	6,620.76	10.69	2,568,361.40	282,871.99	11.01
<i>Sorghum....</i>	60,134.58	6,828.35	11.36	1,733,947.24	201,931.35	11.65
<i>Finger Millet....</i>	17,548.80	3,850.42	21.94	363,091.12	74,862.05	20.62
<i>Oats/'Aja'.....</i>	-	-	-	-	-	-
<i>Rice..... ..</i>	6,660.01	4,626.35	69.46	173,666.23	118,387.81	68.17
Pulses.....	31,192.16	5,211.03	16.71	646,629.91	114,190.50	17.66
<i>Faba Beans</i>	787.66	321.97	40.88	16,113.92	6,525.03	40.49
<i>Field Peas</i>	893.69	598.94	67.02	14,899.20	10,132.73	68.01
<i>Whight Haricot beans...</i>	2,210.17	851.69	38.54	41,338.05	14,541.44	35.18
<i>Red - Haricot beans....</i>	4,443.97	787.86	17.73	78,594.71	15,498.14	19.72
<i>Red Chick-Pea.....</i>	147.33	97.70	66.31	1,538.35	1,020.21	66.32
<i>White Chick-Pea.....</i>	-	-	-	-	-	-
<i>Lentils..... ..</i>	-	-	-	-	-	-
<i>Grass Peas.....</i>	-	-	-	-	-	-
<i>Soya Beans.....</i>	21,591.96	5,038.24	23.33	480,851.03	112,502.67	23.40
<i>Fenugreek.....</i>	5.50	5.48	99.63	-	-	-
<i>Mung bean "Masho"..</i>	1,018.59	777.51	76.33	12,225.16	9,537.55	78.02
<i>Gibto.....</i>	82.27	81.39	98.94	1,069.49	1,058.13	98.94
Oilseeds.....	44,714.42	6,088.59	13.62	575,611.85	79,876.48	13.88
<i>Neug.....</i>	12,138.56	2,847.61	23.46	114,853.16	27,145.34	23.63
<i>Linseed.....</i>	675.65	204.40	30.25	4,220.91	1,263.87	29.94
<i>Groundnut....</i>	16,054.60	2,836.33	17.67	343,790.15	60,953.10	17.73
<i>Sufflower....</i>	-	-	-	-	-	-
<i>Sesame.....</i>	15,764.86	3,774.12	23.94	111,395.61	27,193.59	24.41
<i>Rapeseed.....</i>	80.75	39.28	48.64	1,352.01	650.38	48.10
Root crops....	1,812.41	591.79	32.65	326,256.34	107,910.96	33.08
<i>Potatoes.....</i>	981.41	548.54	55.89	184,140.23	102,637.91	55.74
<i>Taro / 'Godere'....</i>	77.43	23.09	29.83	31,500.40	9,158.66	29.07
<i>Sweet potatoes....</i>	753.58	218.28	28.97	110,615.71	30,826.60	27.87

S.N.N.P Region						
CROP	AREA IN HECTARES			PRODUCTION IN QUINTALS		
	Estimate	S.E.	C.V. In %	Estimate	S.E.	C.V. In %
Total Grains....	1,176,892.85	59,317.43	5.04	31,598,213.25	1,633,263.10	5.17
Cereals.....	954,404.39	50,389.03	5.28	27,680,137.46	1,491,979.50	5.39
<i>Teff.....</i>	243,613.39	21,423.20	8.79	3,837,577.06	343,308.29	8.95
<i>Barley.....</i>	89,967.31	8,603.83	9.56	1,755,671.49	167,000.56	9.51
<i>Wheat.....</i>	145,106.35	15,102.12	10.41	4,007,719.50	416,162.17	10.38
<i>Maize.....</i>	356,365.90	24,662.52	6.92	14,924,388.59	1,017,487.01	6.82
<i>Sorghum....</i>	102,785.55	12,107.35	11.78	2,840,996.94	348,182.26	12.26
<i>Finger Millet....</i>	10,901.17	1,571.74	14.42	175,503.75	25,385.23	14.46
<i>Oats/'Aja'.....</i>	246.43	168.88	68.53	3,877.59	2,833.22	73.07
<i>Rice..... ..</i>	5,418.29	2,153.61	39.75	134,402.53	54,332.25	40.43
Pulses.....	217,551.00	15,051.33	6.92	3,867,392.17	274,073.31	7.09
<i>Faba Beans</i>	74,803.86	7,536.15	10.07	1,498,071.67	155,953.92	10.41
<i>Field Peas</i>	46,441.59	6,257.74	13.47	776,930.97	103,559.70	13.33
<i>Whight Haricot beans...</i>	7,198.07	1,512.02	21.01	129,472.61	26,424.89	20.41
<i>Red - Haricot beans....</i>	75,053.61	7,956.75	10.60	1,249,746.21	131,756.25	10.54
<i>Red Chick-Pea.....</i>	4,354.36	2,065.13	47.43	89,512.01	43,746.93	48.87
<i>White Chick-Pea.....</i>	3,148.74	1,149.40	36.50	40,191.48	13,642.36	33.94
<i>Lentils..... ..</i>	797.80	324.84	40.72	9,002.06	3,986.24	44.28
<i>Grass Peas.....</i>	0.60	0.60	100.01	10.62	10.62	100.01
<i>Soya Beans.....</i>	1,724.90	707.52	41.02	23,468.28	10,440.97	44.49
<i>Fenugreek.....</i>	180.16	57.00	31.64	1,975.64	697.20	35.29
<i>Mung bean "Masho"..</i>	3,840.49	2,088.87	54.39	49,010.62	27,123.14	55.34
<i>Gibto.....</i>	6.82	6.80	99.75	-	-	-
Oilseeds.....	4,937.46	1,123.28	22.75	50,683.62	13,811.49	27.25
<i>Neug.....</i>	252.38	209.93	83.18	2,533.83	2,144.52	84.64
<i>Linseed.....</i>	507.01	142.61	28.13	4,077.31	1,175.86	28.84
<i>Groundnut....</i>	1,347.12	578.78	42.96	20,909.00	10,252.90	49.04
<i>Sufflower....</i>	517.00	310.31	60.02	6,695.04	5,265.83	78.65
<i>Sesame.....</i>	1,852.82	761.47	41.10	11,123.31	4,780.19	42.97
<i>Rapeseed.....</i>	461.12	252.28	54.71	5,345.13	2,951.26	55.21
Root crops....	89,287.86	7,630.61	8.55	21,881,768.74	2,100,207.97	9.60
<i>Potatoes.....</i>	11,285.27	2,179.06	19.31	1,968,758.33	383,183.67	19.46
<i>Taro / 'Godere'....</i>	53,483.11	6,954.04	13.00	14,445,539.27	1,984,078.81	13.73
<i>Sweet potatoes....</i>	24,519.48	2,364.26	9.64	5,467,471.14	548,658.17	10.03

Harari Region						
CROP	AREA IN HECTARES			PRODUCTION IN QUINTALS		
	Estimate	S.E.	C.V. In %	Estimate	S.E.	C.V. In %
Total Grains....	11,785.60	1,855.09	15.74	221,898.80	32,016.10	14.43
Cereals.....	9,755.43	1,368.60	14.03	204,600.74	28,558.75	13.96
Teff.....	-	-	-	-	-	-
Barley.....	-	-	-	-	-	-
Wheat.....	101.07	47.99	47.48	1,542.22	724.99	47.01
Maize.....	1,712.35	301.94	17.63	39,632.92	7,016.59	17.70
Sorghum....	7,942.01	1,347.51	16.97	163,425.61	27,064.84	16.56
Finger Millet....	-	-	-	-	-	-
Oats/'Aja'.....	-	-	-	-	-	-
Rice..... ..	-	-	-	-	-	-
Pulses.....	2.59	1.46	56.21	19.32	13.58	70.28
Faba Beans	-	-	-	-	-	-
Field Peas	-	-	-	-	-	-
Whight Haricot beans...	-	-	-	-	-	-
Red - Haricot beans....	1.77	1.25	70.28	19.32	13.58	70.28
Red Chick-Pea.....	-	-	-	-	-	-
White Chick-Pea.....	-	-	-	-	-	-
Lentils..... ..	-	-	-	-	-	-
Grass Peas.....	-	-	-	-	-	-
Soya Beans.....	-	-	-	-	-	-
Fenugreek.....	-	-	-	-	-	-
Mung bean "Masho"..	-	-	-	-	-	-
Gibto.....	-	-	-	-	-	-
Oilseeds.....	2,027.58	613.58	30.26	17,278.73	4,874.39	28.21
Neug.....	-	-	-	-	-	-
Linseed.....	-	-	-	-	-	-
Groundnut....	2,021.83	613.42	30.34	17,240.60	4,873.67	28.27
Sufflower....	-	-	-	-	-	-
Sesame.....	5.74	4.16	72.39	38.13	28.80	75.54
Rapeseed.....	-	-	-	-	-	-
Root crops....	71.07	24.30	34.20	12,517.19	4,776.89	38.16
Potatoes.....	-	-	-	-	-	-
Taro / 'Godere'....	-	-	-	-	-	-
Sweet potatoes....	68.64	24.00	34.96	12,517.19	4,776.89	38.16

Dire Dawa Region						
CROP	AREA IN HECTARES			PRODUCTION IN QUINTALS		
	Estimate	S.E.	C.V. In %	Estimate	S.E.	C.V. In %
Total Grains....	12,127.55	1,810.93	14.93	233,604.56	37,962.76	16.25
Cereals.....	11,415.83	1,778.16	15.58	225,437.89	37,669.94	16.71
<i>Teff.....</i>	-	-	-	-	-	-
<i>Barley.....</i>	7.30	7.21	98.77	28.38	28.03	98.77
<i>Wheat.....</i>	-	-	-	-	-	-
<i>Maize.....</i>	282.34	88.52	31.35	3,972.47	1,251.83	31.51
<i>Sorghum....</i>	11,126.18	1,768.08	15.89	221,437.04	37,552.46	16.96
<i>Finger Millet....</i>	-	-	-	-	-	-
<i>Oats/'Aja'.....</i>	-	-	-	-	-	-
<i>Rice..... ..</i>	-	-	-	-	-	-
Pulses.....	433.35	158.31	36.53	5,321.84	1,989.06	37.38
<i>Faba Beans</i>	-	-	-	-	-	-
<i>Field Peas</i>	-	-	-	-	-	-
<i>Whight Haricot beans...</i>	250.80	130.35	51.97	2,809.40	1,466.49	52.20
<i>Red - Haricot beans....</i>	171.29	101.12	59.03	2,512.44	1,472.89	58.62
<i>Red Chick-Pea.....</i>	-	-	-	-	-	-
<i>White Chick-Pea.....</i>	-	-	-	-	-	-
<i>Lentils..... ..</i>	-	-	-	-	-	-
<i>Grass Peas.....</i>	-	-	-	-	-	-
<i>Soya Beans.....</i>	-	-	-	-	-	-
<i>Fenugreek.....</i>	-	-	-	-	-	-
<i>Mung bean "Masho"..</i>	-	-	-	-	-	-
<i>Gibto.....</i>	-	-	-	-	-	-
Oilseeds.....	278.38	143.55	51.57	2,844.84	1,397.35	49.12
<i>Neug.....</i>	-	-	-	-	-	-
<i>Linseed.....</i>	-	-	-	-	-	-
<i>Groundnut....</i>	240.43	143.48	59.68	2,678.81	1,403.65	52.40
<i>Sufflower....</i>	-	-	-	-	-	-
<i>Sesame.....</i>	37.95	24.09	63.47	166.02	98.46	59.30
<i>Rapeseed.....</i>	-	-	-	-	-	-
<i>Root crops....</i>	-	-	-	-	-	-
<i>Potatoes.....</i>	-	-	-	-	-	-
<i>Taro / 'Godere'....</i>	-	-	-	-	-	-
<i>Sweet potatoes....</i>	-	-	-	-	-	-

APPENDIX III

Questionnaires

CENTRAL STATISTICS AGENCY
ANNUAL AGRICULTURAL SAMPLE SURVEY
(2012 E.C)

Form Ag.S.S.
2012/2A

SECTION 1: Area Identification

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Region	Zone	Woreda	Kebele	EA	HH ID	Sex of HH head M = 1 F = 2	Holder ID	Name	Age	Sex M = 1 F = 2	Level of education completed	Household size	Type of agriculture Crop = 1 Livestock = 2 Both = 3

SECTION 2:- Field /Other land use details

15	16	17					
S. No.	Questions for the holder	Parcel No.		Plot/field No.			
		The field is covered by: Single crop = 1 Mixed crops = 2 Other land use = 3					
		Crop/other land use name		Crop name		Crop name	
		Code		Cod e		Code	
1	Type of holding: Own = 1 Rented in = 2 Sharecrop in = 3 Other (specify) = 4						
2	Is the field under extension program/ Service? Yes = 1 No = 2						
3	Was this field /plot Irrigated? Yes = 1 No = 2 → Q4						
3.1	If it was irrigated, source of water: River = 1 Lake = 2 Pond = 3 Harvested water = 4 Well/ground water = 5 Dam = 6 other (specify) = 7						
3.2	Type of irrigation: Full/conventional irrigation = 1 Supplemental irrigation = 2						
4	How many times was the field tilled in this production season? Zero tillage (direct drill/seedling) = 1 Tilled once = 2 Tilled two times = 3 Tilled three or more times = 4 Not at all(not cultivated) = 5						
4.1	Slope of the field/plot: Plain = 1 partially slopy = 2 slopy = 3						
5	Did you use prevention methods against soil erosion on this field? Yes = 1 No = 2 → Q6						
5.1	If the answer to Q5 is Yes, main soil erosion preventive method used: Terracing = 1 Bund = 2 Planting trees = 3 Plough across the contour = 4 Rotational grazing = 5 avoiding grazing = 6 Creating grassed waterways = 7 Other (specify) = 8						
6	Do you apply any method to maintain /improve soil organic matters on this field/plot? Yes = 1 No = 2 → Q7						
6.1	(If the response to Q6 is YES, what method do you mainly used? Growing annual crops in rows between perennial crops = 1 maintaining continuous soil cover (residues) = 2 Maximizing the use of organic matter sources = 3 Using appropriate placement of nitrogen fertilizers = 4 Avoiding grazing = 5 Increasing the complexity of the crop rotations = 6 intercropping the complexity crop rotations with leguminous crops = 7 other = 8						
7	How were seeds planted/ sowed? (For only Temporary crops) Broadcasting = 1 Row planting = 2						
8	If more than one crop grown or if crops were intercropped, give the percentage of land devoted to each crop (the total percentage should equal 100).						
9	Number of Plants or trees on the field (for permanent crops only). (exclude chat, pineapple and sugarcane)						
10	Number of matured plants or trees (in full production) on the field (exclude chat, pineapple and sugarcane)						
11	Of the total area of this field, what percent of it is devoted to trees in full production (for each crop type)?						
12	(For “enset” trees only) Number of trees harvested/to be harvested in the production season:						
13	Type of seed/seedling sowed/planted: Improved seed = 1 local seed = 2 → Q16						
13.1	If code 1 for Q13, the seed used was: (For only Temporary crops) New improved seed for this production season = 1 Improved seed left over from last year production season = 2 Improved seed saved from previous harvest = 3 (if Code 2 or 3 for Q13.1, → Q16)						
13.2	If code 1 for Q13.1, From whom/or institution did you obtain/purchase the seed? Code (a): (codes are available in enumerators manual).						
14	(For Cereals, Pulses and Oil seeds only:) If improved seeds are used, (If code 1 for Q13, quantity of seed used (in Kg)	Kg	Gm	Kg	Gm	Kg	Gm
15	(For Cereals, Pulses and Oil seeds only:) If improved seeds are used, (If code 1 in Q13), Total cost of seed(Birr)	Birr	Cents	Birr	Cents	Birr	Cents
16	(For Cereals, Pulses and Oil seeds only:) If local seeds are used, (If code 2 in Q13), quantity (in Kg)	Kg	Gm	Kg	Gm	Kg	Gm
17	Was there any crop damage on this field? Yes = 1 No = 2 (if the answer is no to Q17, → Q20)						

18	If there was crop damage, (if code 1 for Q17): Main cause of damage: →				
	Code for main cause: →				
19	Percent damaged (if code 1 for Q17):				
20	Have you applied any preventive methods against crop damage? Yes = 1 No = 2 (if the answer to Q20 is no, → Q23)				
21	Type of preventive methods (if code 1 to Q20): Chemical = 1 Natural/traditional/ = 2 Both = 3				

Form Ag.S.S. 2012/2A .. cont'd

SECTION 2:- Field /Other land use details Cont'd

15	16	17							
2 2	If chemical was used, type of chemical: <i>Pesticide = 1 Herbicide = 2 fungicides = 3 1 & 2 = 4 1 & 3 = 5 2 & 3 = 6 All = 7</i>								
2 3	Have you applied/used natural/chemical fertilizers on this field? Yes = 1 No = 2 (if the answer to Q23 is no → Q27)								
2 4	If fertilizer was applied, type of fertilizer: <i>Natural = 1 Chemical = 2 Both = 3</i>								
2 5	If chemical fertilizer was applied, (if code 2 or 3 to Q24): 25.1 Type of chemical fertilizer: UREA = 1 DAP = 2 UREA & DAP = 3 NPS = 4 NPS & UREA = 5 Blended = 6 UREA & Blended = 7 25.2. Quantity of chemical fertilizer applied to the field (by fertilizer type):								
		<u>DAP</u>		<u>UREA</u>		<u>NPS</u>		<u>Blended</u>	
		Kg	Gm	Kg	Gm	Kg	Gm	Kg	Gm
2 6	If natural fertilizer was used, (if code 1 or 3 to Q24), type of natural fertilizer: Animal waste/manure = 1 compost = 2 Orga = 3 1 & 2 = 4 1 & 3 = 5 2 & 3 = 6 all = 7 other(specify) = 8								
2 7	Number of times you harvest from this field/plot in this season?								
2 8	If you harvest twice or more from this plot in this production season, name of crop harvested: (more than one crop possible).	Crop name	Code	Crop name	Code	Crop name	Code		
2 9	What was the field before this production season? Left fallow = 1 own cropped/cultivated land = 2 government forest/ tef/swamp = 3 comunal grazing/forest/tef land = 4 grazing/forest/tef land under other holder = 5 Cropped/cultivated land under other owner = 6 other (specify) = 7								

FORM 2A: SECTION 3: Area of field/plot measured by (GPS, Compass Rope, or Measurer) (Meher 2012 E.C)

1	2	3	4	5	6		7	8	9	10		11	12	13		14	
HH Id	Sex of HH head	Holder Id	Parcel No.	Plot No.	Crop name		Was area of the field measured using GPS, Compass-Rope or Measurer?	If field is measured using GPS or Measurer, accuracy	Closure error (for fields measured using compass and meter only)	Area of field/Plot (in sq.m.)		If field is not measured, reason Difficult to measure with compass/measurer = 1 Other = 2	If field is measured using GPS or measurer software, field obstruction Not protected/bare = 1 Covered with trees/perennial crops = 2 In compound = 3 Partially covered = 4 Other (specify) = 5	Date of measurement		How large is the plot in Local Units?	
					Name	Code				(Measured Clockwise)	(Measured Anti Clockwise)			Day	Month	Area in [Name]	
																Area	Area Unit

	Name	Signature	Date
Data collector's			

Field Supervisor's			
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Form CPSS 2012/3/1A

Central statistic Agency
Agricultural sample survey (2012 E.C)
Meher season Pre-harvest crop production forecasting

Section 1: Area identification

1	2	3	4	5	6	7	8	9
Region	Zone	Wereda	Farmers' Association	Enumeration Area	HH Id	Sex of HH head Male = 1 Female = 2	Holder Id	Holder name

Section 2: Pre-Harvest Crop production forecasting (only for cereals, pulses, oil seeds, Potatoes, sweet potatoes, Godere and Enset) – Main season

Section 2: Pre-harvest Crop production forecasting (only for cereals, pulses, oil seeds, Potatoes, Sweet potatoes, Ground and Enset) - Main season																		
1		2		3		4		5		6		7		8		9		
S.No		Crop name		No of fields		What is your view of your productivity in this crop relative to last year's production season (subjective measure of productivity)											Expected productivity change in percent	
						Will increase =1 No change = 2 Will decrease = 3		If it will increase				If it will decrease						
								Amount of increment in percent		One main reason for increment		Amount of decrease in percent		One main reason for the decrease				
		Code				Code				Code				Code				
0	1																	
0	2																	
0	3																	
0	4																	
0	5																	
0	6																	
0	7																	
0	8																	
0	9																	
1	0																	
1	1																	
1	2																	
1	3																	
1	4																	

Central statistical Agency
Agricultural sample survey (2012 E.C)
Meher season crop production forecast

Form Ag.S.S 2012/3/1B

From Development Agent

Section 1: Area identification:

1	2	3	4	5
Region	Zone	Woreda	Rural Kebele	Enumeration Area

Section 2: Crop production forecasting (only for cereals, pulses, oil seeds, Potatoes, sweet potatoes, Godere and Enset)

Main season

1	2	3	4	5	6	7	8
Crop name	Code	What is your view of your productivity in this crop relative to last year's production season (Subjective measure of productivity)					
		Will increase = 1 No change = 2 will decrease = 3	If it will increase		If it will decrease		Expected change in productivity (in percent)
			Amount of increment in percent	One main reason for increment	Amount of decrease in percent	One main reason for the decrease	
		Cod e		Cod e		Cod e	
Teff	07						
Barely	01						
Wheat	08						
Maize	02						
Sorghum	06						
Finger millet	03						
Oats	04						
Rice	05						
Faba bean	13						
Field pea	15						
White haricot bean	12						
Red haricot bean	19						
Red chick pea	11						
White chick pea	130						
Lentils	14						
Grass pea	16						
Fenugreek	36						
Mung bean	09						
Gibto	17						
Neug	25						
Linseed	23						
Ground nut	24						
Safflower	28						
Sesame	27						
Rapeseed	26						
Soya bean	18						
Godere	64						
Potato	60						
Sweet potato	62						
Enset	74						

Note: Data will be collected from October 10-15/2019 (15 days)

Name	Sinature	Date
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Enumerator's			
Supervisor's			
Development Agent's			

Central statistical Agency
Agricultural sample survey (2012 E.C)

Form Ag.S.S 2012/3/1C

Meher season Pre-harvest crop production forecasting

From agricultural development group leader farmers

Section 1: Area identification:

1	2	3	4	5
Region	Zone	Woreda	Rural Kebele	Enumeration Area

Section 2: Crop production forecasting (only for cereals, pulses, oil seeds, Potatoes, sweet potatoes, Godere and Enset)

Main season

1	2	3	4	5	6	7	8
Crop name	Code	What is your view of your productivity in this crop relative to last year's production season (Subjective measure of productivity)					
		Will increase = 1 No change = 2 will decrease = 3	If it will increase		If it will decrease		Expected change in productivity (in percent)
			Amount of increment in percent	One main reason for increment	Amount of decrease in percent	One main reason for the decrease	
Teff	07						
Barely	01						
Wheat	08						
Maize	02						
Sorghum	06						
Finger millet	03						
Oats	04						
Rice	05						
Faba bean	13						
Field pea	15						
White haricot bean	12						
Red haricot bean	19						
Red chick pea	11						
White chick pea	130						
Lentils	14						
Grass pea	16						
Fenugreek	36						
Mung bean	09						
Gibto	17						
Neug	25						
Linseed	23						
Ground nut	24						
Safflower	28						
Sesame	27						
Rapeseed	26						
Soya bean	18						

Godere	64									
Potato	60									
Sweet potato	62									
Enset	74									

Note: Data will be collected from October 10-15/2019 (15 days)

	Name	Sinature	Date
Enumerator's			
Supervisor's			