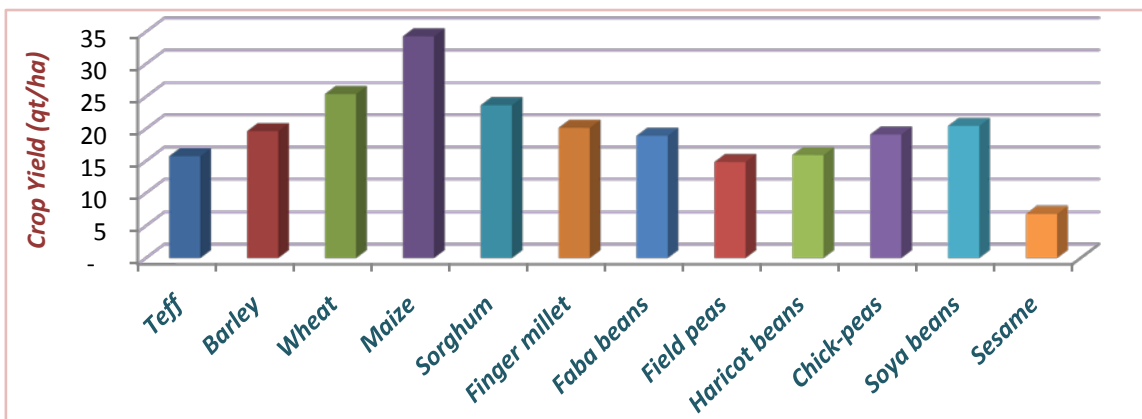


THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
CENTRAL STATISTICAL AGENCY

KEY FINDINGS OF THE 2014/2015 (2007 E.C.)
AGRICULTURAL SAMPLE SURVEYS

**Crop Yield for Major Grain Crops , Private Small holder Farms ,
Main Season 2014/15**



COUNTRY SUMMARY

ADDIS ABABA
September, 2015

Part I: INTRODUCTION

Agriculture is main economic pillars of the Ethiopian economy and the overall economic growth of the country is highly dependent on the success of the agriculture sector. The sector represents 42 % of the GDP of the country and about 85 % of the population gains their livelihood directly or indirectly from agricultural production.

The government of Ethiopia have been devised and implementing different strategies and polices to boost the agricultural sector as the engine of the country overall growth. Now we are in the era of growth and transformation plan (GTPs). Accurate, reliable and timely statistical information in the sector is crucial for designing, monitoring and evaluating these policies and strategies. Specifically eestimates and forecasts of crop area and yield are of critical importance to policy makers for the planning of agricultural production and monitoring of food supply in the country.

The central Statistical Agency (CSA) has been conducting and providing agricultural statistical information for more than 3

decades on annual basis. The agency has conducted one agricultural census by the year 2001/02 and has planned to conduct the second one by 2018/19.

The annual agricultural sample surveys (AgSS) have been aiming at providing statistical information on the agricultural situation of the country that will serve as inputs for assessing, monitoring and evaluating the sector's performance. The survey covers both seasons of annual agricultural production i.e main rainy production season (Meher) and short rainy season (Belge), collect information from the two major agricultural sub-sectors of private rural small holder farmers and commercial farms. About 95% of the total annual agricultural production generated from the former sub-sector while the remaining comes from the later.

The general objective of the AgSS is to collect basic quantitative information on the country's agriculture that is essential for planning, policy formulation, monitoring and evaluation of mainly food security and other agricultural activities. The AgSS is composed of five components: Crop Production Forecast Survey, Meher Season Post Harvest Survey (Area and production, land use, farm management and

crop utilization), Livestock Survey and Belge Season Survey and a survey on Commercial farms.

The Annual Agricultural Sample Survey (Meher season) covered the entire rural parts of the country except the non-sedentary population of three zones of Afar & six zones of Somali regions. The range of data items in crops and livestock production covered and agricultural holders/ commercial farms who grow or/and rear at least one or more of these are enumerated and data each study variables collected from each operator. The annual AgSS methodology is sound and up on international standard¹.

Although statistical reports of the survey results have been compiled and disseminated annually for each survey components of AgSS, the Agriculture, Natural Resource and Environmental Statistics Directorate (ANRES D) of CSA finds it very useful to prepare synopsis of the result of all survey components of the AgSS to data users. Hence, by this paper a short summery of the main results of 2014/15 (2007 E.C)

agricultural production year Agricultural Sample Survey (AgSS) results has presented.

For 2014/15 (2007 E.C) AgSS the principal data collected are mainly related to crop area and production, agricultural inputs utilization, land use and livestock characteristics at country, regional and Zone levels. The annual surveys covered the sedentary population of the entire country. The data compiled for crop area and production includes both the private peasant holdings and the large and medium scale (commercial) farms. For the private small holder farms survey about 2,187 sampled enumeration areas (EAs) and about 43,202 sampled agricultural households were covered by the survey. A total of 3,041 farms were actually covered for the commercial farms survey. For detailed information of the survey results of all components of the 2014/15 (2007 E.C) Agricultural Sample survey (AgSS), look CSA website: [http:// www.csa.gov.et](http://www.csa.gov.et). Or contact the Agriculture, Natural Resource and Environmental statistics Directorate (ANRES D) of CSA:

Tel Phone : +251-111-560-992.

¹ See the annual statistical bulletins of AgSS

Part II: Highlights on the Key Findings of the 2014/15 Annual Agricultural Sample Survey Results

1. Area and Production of Major crops

1.1. Grain Crops

Grain crops constitute the majority of the annual total agricultural crop production at country level. For the private peasant about 63% of the share of total agricultural crop output was accounted by grain crops during the 2014/15 (2007 E.C) production year. Hence, these crops are highly important to enhance the food security of small holder framers in Ethiopia.

The total cropland area and production of grain crops during the survey year for private peasant farmers (Meher² season) were **12,550,649** hectares and **270,222,491** quintals, respectively. While the figures for commercial farms were 612,081 hectares and **12,151,039** quintals, respectively (see Table 1 & 2).

² Main season of the production year, usually it refers the period from September up to February, during the production year.

The result reveals more than 95% of the total grain production comes from private peasant holders. Out of the total grain crop area for private peasant farms cereals, pulses and oilseeds covered about **10,136,490**; **1,558,422** and **855,738** hectares of cultivated land, from which **235,903,211**; **26,718,345** and **7,600,935** quintals were harvested, in their respective order.

Crop Type	Private Peasant Farms					
	Meher season		Belge Season		Total	
	Area (ha)	Production (qt)	Area (ha)	Production (qt)	Area (ha)	Production (qt)
Grain Crops	12,550,649	270,222,491	1,174,149	8,934,466	13,724,798	279,156,957
Cereals	10,136,490	235,903,211	883,968	7,595,453	11,020,458	243,498,664
Pulses	1,558,422	26,718,345	261,305	1,332,162	1,819,727	28,050,507
Oilseeds	855,738	7,600,935	28,876	6,851	884,613	7,607,786

Table 1: Area and Production Grain Crops for Private Peasant Holding (Main Season, 2014/15)

As indicated in Fig.1 for the private peasant farmers cereals take the majority share of area and production out of the total grain cropped area and production. The percentage share of cereals was 80.3% and 87% of grain crop area and production, respectively.

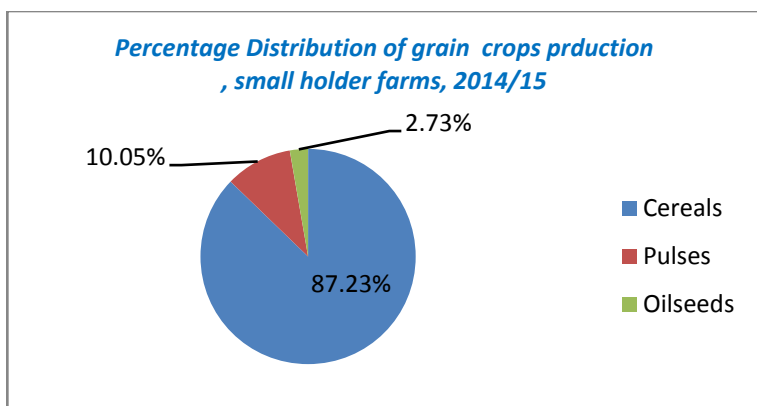
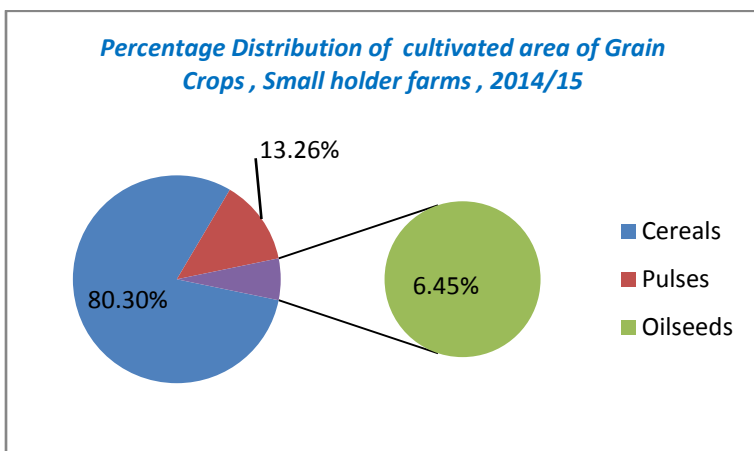


Table 2: Area and Production share of grain crops for commercial farms (major season, 2014/15)

Crop Type	Area (ha)	Production (qt)
Grain Crops	612,081	12,151,039
Cereals	278,787	8,992,766
Pulses	46,073	826,523
Oilseeds	287,221	2,331,750



The share of cereals from the total grain cropped area was about 46%. For these farms the highest share of total grain cropped area was covered by oil seeds.

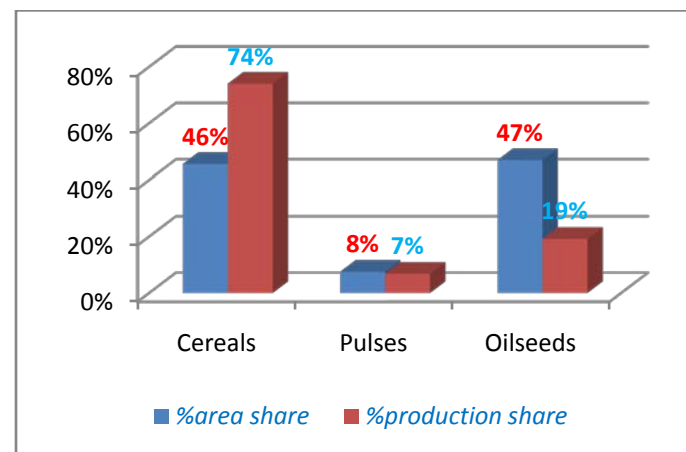


Figure 1: Area and production share of cereals, pulses & oil seeds for private peasant farmers, 2014/15

Figure 2: Area and Production share of grain crops for commercial farms (major season 2014/15)

Crop Yield for Selected Major Grain Crops

Productivity of crops directly determines the volume of total agricultural crop production. It is the most commonly used impact indicator to determine the performance and effectiveness of the agricultural sector of an economy. However, crop yields are inevitably affected by many factors, these are weather, input price, changes in farming practices, amounts of fertilizer used quality of seed varieties, and use of irrigation.

In Ethiopia the yields of major food crops have almost been low and remained constant over the years in the past. Due to this the increased total production of major food crops came from the increased total crop land at country level. However in recent years, crop yield shown a promising increment at private peasant farmer plot level and in commercial farms. Even though there is difference in farm management practices and input usage crop yield in commercial and small holder farmers show little difference during the survey year. The results shows for some of the crops the yield was less in commercial farms compared to their counterpart small holder farmers. The yield of major grain crops both for private small

holders and commercial farms for major production season (Mehere) of the year 2014/15 is indicated in Fig.3.

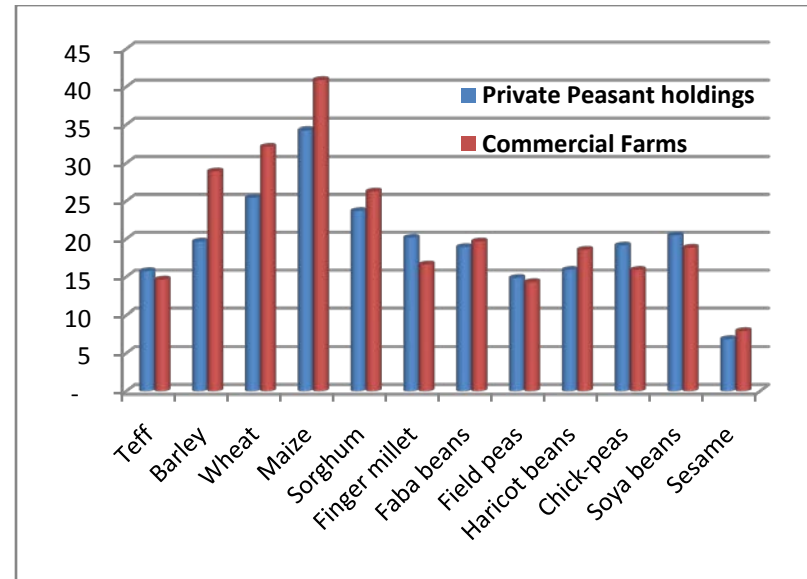


Figure 3: Crop Yield for Selected Major Grain Crops for (Private Small holdings & Commercial farms, main season, 2014/15)

1.2. Vegetables, Root and Permanent Crops

During the major season of the survey year a total of 2,008,988 hectares of land were covered by vegetables, root crops and permanent crops both in small holder farmers and

commercial farms. The total crop output from these crops was found 233,822,619 quintals (See Table 3).

Crop Type	Cultivated Area in Hectare		Production in Quintals	
	Private Peasant	Commercial Farms	Private Peasant	Commercial Farms
All Crops	14,203,867	983,537	360,734,466	81,934,805
Grain Crops	12,5507,649	612,081	270,222,491	12,151,039
Vegetables	139,449	6,791	7,228,937	884,849
Root Crops	216,374	1,211	54,554,894	301,181
Permanent Crops	1,297,395	347,768	80,181,583	67,817,440

Table 3:- Area and production of Crops for Private & Commercial Farms (Major Season, 2014/15)

2. FARM MANAGEMENT PRACTICES

In Ethiopia, as agriculture is the dominant economic sector, the uses of improved agricultural technologies are very crucial to boost agricultural production and productivity, thereby, ensure food security and reduce poverty. To materialize this objective, concrete measures have been taken by the government, i.e., increasing the availability and uses of these

improved agricultural inputs by farmers. In this report a short summary of the major findings regarding application of fertilizers, improved seed and pesticides, during the survey year are presented in brief.

2.1. Inorganic Fertilizer

The volume of the use of inorganic fertilizers and the extent of area under fertilizers are increasing in the country. The survey results indicate that the amount of inorganic fertilizer applied to area under crops estimated to be more than 8.5 million quintals for private peasant holders during the survey year 2014/15 (Table 4). From the result nearly half of the total cultivated land was fertilized either organically or inorganically. The total fertilized cultivated land was found 8,175,441 hectares, of which 6,604,678 hectares of land were fertilized by inorganic fertilizer that accounted about 81% of the total fertilized land area. These share of chemically fertilized area to total fertilized cultivated land increased from the previous production year. As indicated in Table 5 the proportion of cultivated land under chemical fertilizer reached 46% of the total cultivated cropped area at country level.

Table 4: Quantity of inorganic fertilizer used by private peasant holders by type in Quintal (qt), Main season 2014/15

Crop Type	DAP	Urea	Both (DAP& Urea)	Total
All Crops	1,707,682	256,281	6,627,284	8,591,247
Cereals	1,461,076	213,809	6,024,524	7,699,409
Pulse	154,235	7,171	134,149	295,555
Oil seeds	18,164	7,016	88,531	113,711
Other crops	74,207	28,285	380,080	482,572

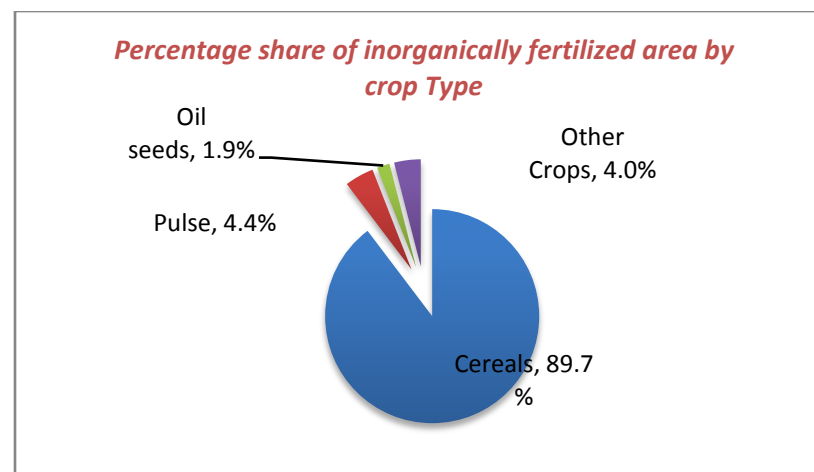


Fig 6: Percentage share of inorganically fertilized area by crop Type (private small holdings, main season, 2014/15)

Table 5: Amount of Area Covered (ha) by Chemical fertilizer by Crop type, private peasant holders (Main season 2014/15)

Crop Type	All Cultivated land area	All Fertilized area	Organic fertilizer	Inorganic fertilizer
All	14,327,306	8,175,441	1,570,763	6,604,678
Cereals	10,144,253	6,717,790	794,579	5,923,211
Pulse	1,558,422	442,372	152,412	289,960
Oil seeds	855,751	155,590	29,021	126,569
Others Crops	1,768,880	859,689	594,751	264,938

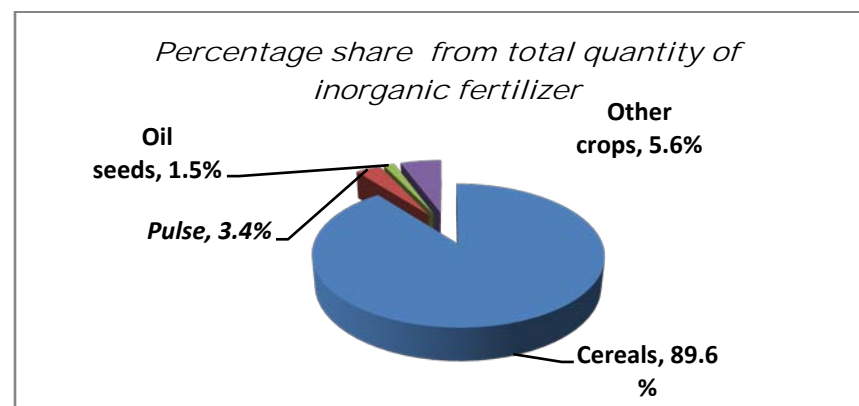


Figure 7: Percentage share of quantity of inorganic fertilizer applied by crop type (private small holdings, main season, 2014/15)

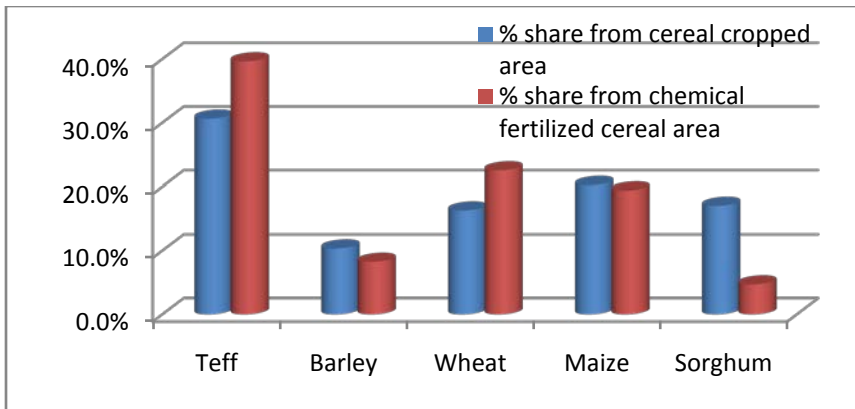


Figure 8: Share of major cereal crops from all cropped and chemical fertilized cereals (private small holdings, main season, 2014/15)

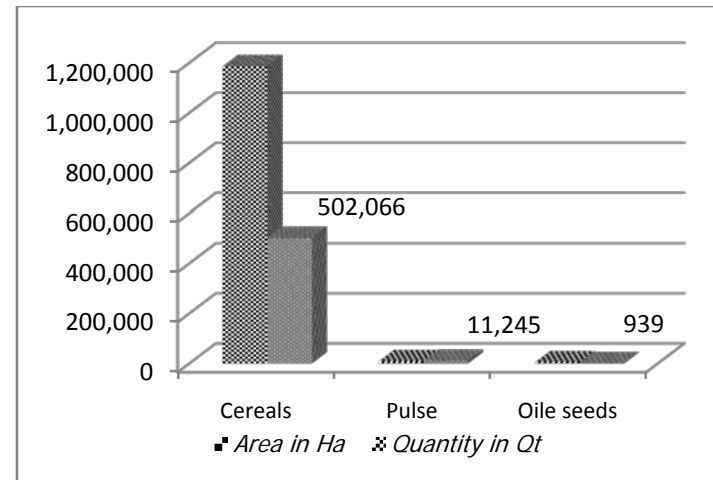


Figure 9: Area covered and quantity of improved seed by type of crops (private small holdings, main season, 2014/15)

2.2. Improved Seed

Improved seed is another input that contributes to an increase of agricultural productivity. The amount of improved seed and the extent of area under application are increasing from year to year. However its rate of growth has not been as expected. The use of these improved seeds still remains very low and has not been widely practiced by small holder farmers.

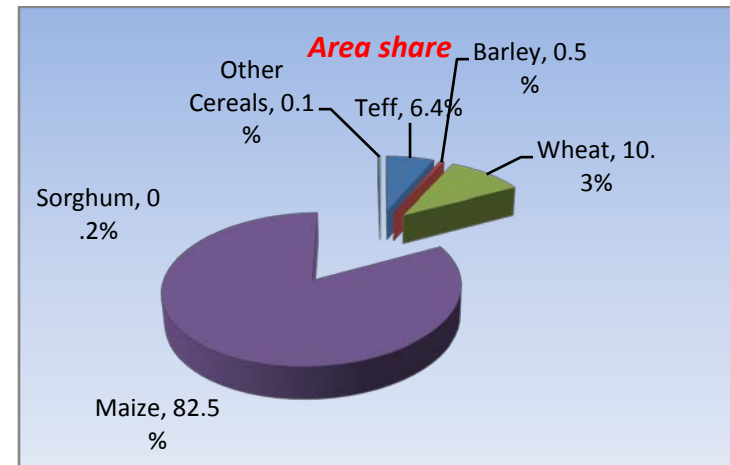


Figure 10: Area share of cereal crops from improved cereal by type (private small holdings, main season, 2014/15)

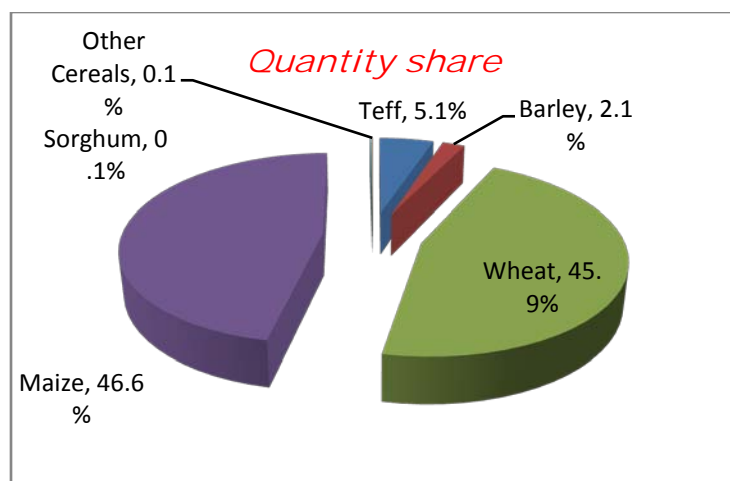


Figure 11: Quantity share of cereal crops from improved seed by type (private small holdings, main season, 2014/15)

As shown in Fig.10, from the total area under improved seed allocated to cereals about 83% covered by maize. The share for wheat, teff and Barely were 10.3%, 6.4% and 0.5%, respectively. The amount of improved seed per hectare (improved seed application rate) for these major cereal crops is increasing from year to year. Higher application rate was found for wheat and Barley, 1.89 & 1.77 Quintal per hectare, respectively and the lowest application rate was for sorghum (0.33 quintal per hectare). The application rate for teff and maize were 0.34 quintal and 0.24 quintal per hectare of cultivated land, respectively, as shown in Fig. 12.

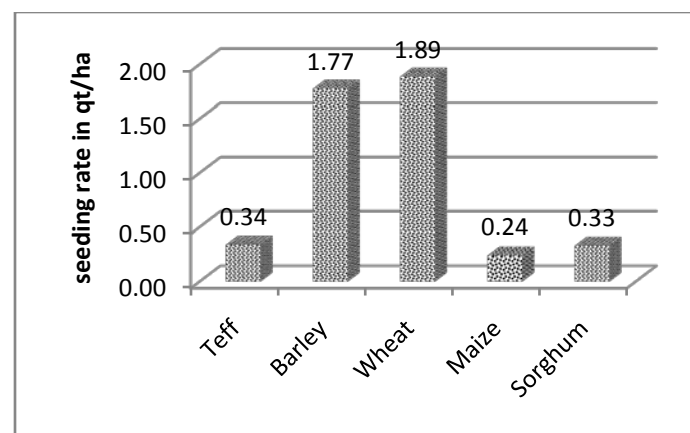


Figure 12: Application rate of improved seed for major cereals (private small holdings, main season, 2014/15)

2.3. Irrigated Area

The total irrigated land for the year 2014/15(2007 E.C.) was about 179 thousand hectares. The crop land under the practice of irrigation increased from the previous production year. On average only 1.3% of the total cultivated land was under irrigation. Of these irrigated land about 40% was covered by cereals.

Table 6:- Pesticide, irrigated and extension services applied cultivated land in hectares by crop category (private small holdings, main season, 2014/15)

Crop Type	Pesticides (ha)	Irrigation (ha)	Extention (ha)
All	3,197,922	178,904	4,508,403
Cereals	2,988,840	77,138	3,988,971
Pulses	113,199	4,207	227,923
Oilseeds	34,051	5,215	127,326
Vegetables	5,514	4,186	42,357
Root crops	36,915	18,415	45,446
Other Temporary crops	3,580	5288	8,864
Permanent Crops	15,823	64455	67516

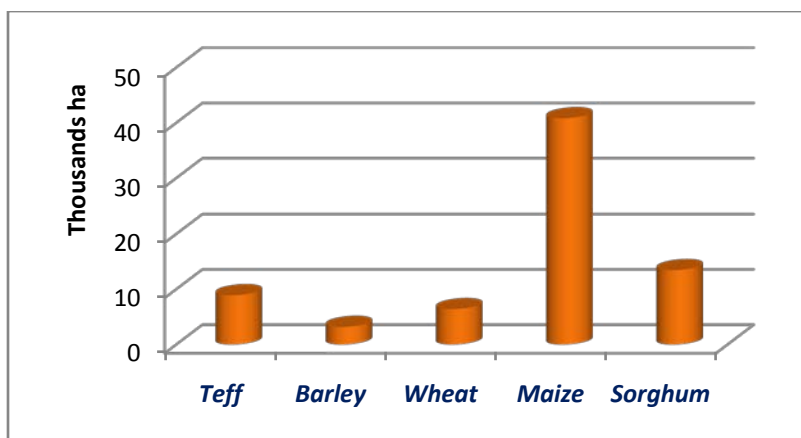


Fig 13: Irrigated cultivated land in hectares for major cereal crops (private small holdings, main season, 2014/15)

As indicated in Fig 13, among the major cereal crops more irrigated land was allocated to maize followed by sorghum and Teff crops.

2.4. Pesticide Applied

The total pesticide applied area for the year 2014/15(2007 E.C.) main production season was more than 3.2 million hectares. The majority of the pesticide applied cultivated land was on cereal crops (Table 6).

2.5. Extension Package Program

As the findings of the survey indicate around 39.3% of the cultivated land under cereal crops was covered by extension package program. In 2014/15 main cropping season, the number of holders participating in various crop extension packages was estimated to be more than 7.3 million, as presented in Fig. 14.

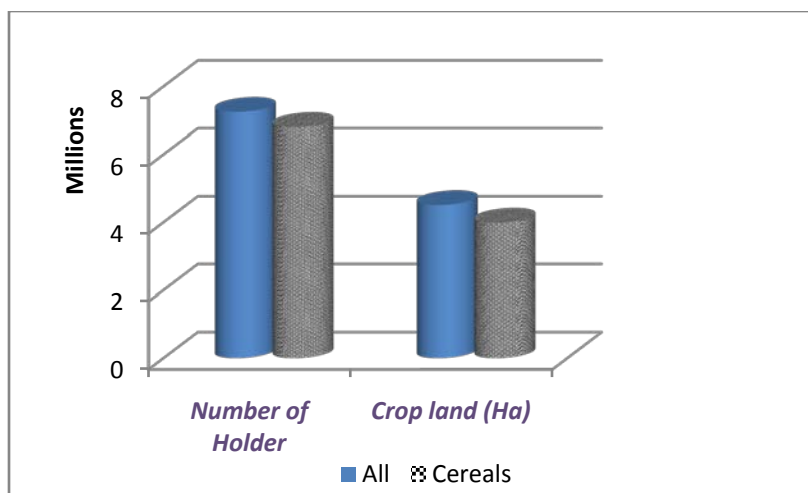


Figure 44: The number of holders and crop land under extension package (private small holdings, main season, 2014/15)

3. LAND UTILIZATION

This summary contains the land use and average holding size per households and per holders in the small holder agriculture in the country for the 2014/15 production year. The survey results on the total land area under different types of land uses shown in Fig. 15 below. According to the result about 17.7 million hectares of land was used in different types of land use by small holder farmers during the major season of the survey year.

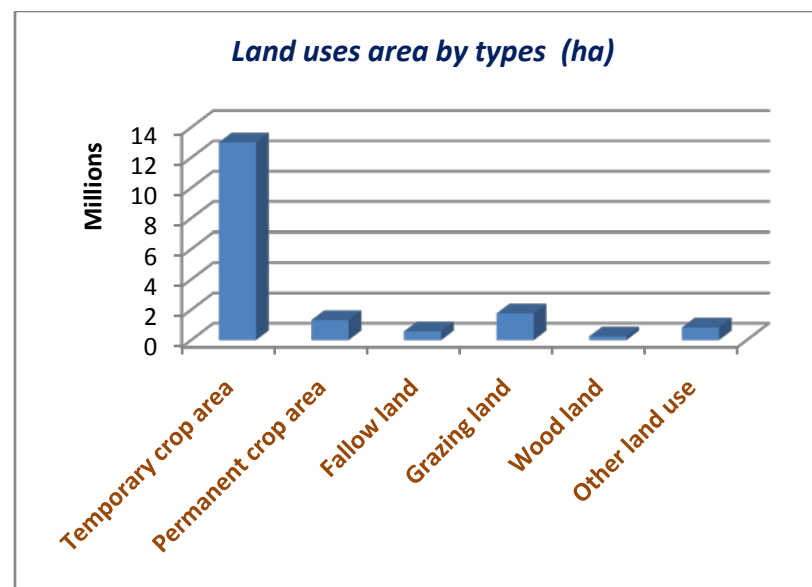


Figure 55: Total Land Use Area Disaggregated by Land Use Types for Private Peasant Holding, 2014/15

The total land of used for temporary crops cultivation was more than 13 million hectares. The land used for cultivation of permanent crops and grazing land was 1.3 and 1.7 million hectares, respectively. The percentage share of land area for temporary crops was 73.4%, while share of land area for permanent crops and grazing land 7.4 % & 9.9%, respectively.

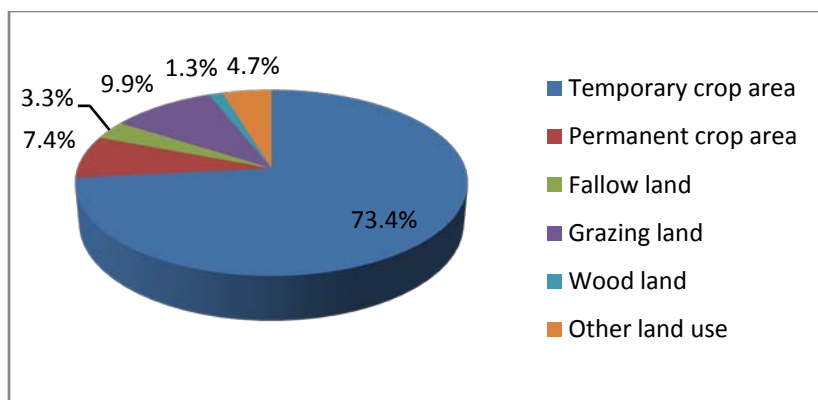


Figure 66: Percentage share of land use by types, Private peasant holdings 2014/15

The survey result shows that there were 16.1 million agricultural holders and around 15.6 million agricultural households all over the country. The average holding sizes per household and per holder were 1.14 hectare and 1.10 hectare during the survey year in each respective order. While the average holding size in all cropped area per household and per holder were 0.95 hectare and 0.92 hectare, respectively.

Table 7: - Average holding size per households & holder, 2014/15 production year

Size of land Holding in Ha	All land use	All crop area
Average holding size per household	1.14	0.95
Average holding size per holder	1.10	0.92

4. LIVESTOCK CHARACTERISTICS

Among Africa countries Ethiopia considered to have the largest livestock population. There are huge number of cattle, sheep, goats, horse, donkeys, mules, camels, poultry and beehives in the country. This livestock sector has been contributing considerable portion to the economy of the country, and still promising to rally round the economic development of the country. The Annual Livestock³ Sample Survey covered the rural agricultural population in all the regions of the country except the non-sedentary population of three zones of Afar and six zones of Somali regions.

During the survey year (2014/15) the total estimated number of total cattle, sheep and goats, and other animals (horses, donkeys, mules and camels) which were mainly used as a supportive to production of crops and transportation, at country level are indicated in Fig.17 below.

³ **Note:** The number of livestock and its products shown in all tables do not include large scale dairy farms, fattening, etc. owned by investors, cooperatives and other institutions. It also excludes urban area livestock numbers and its products

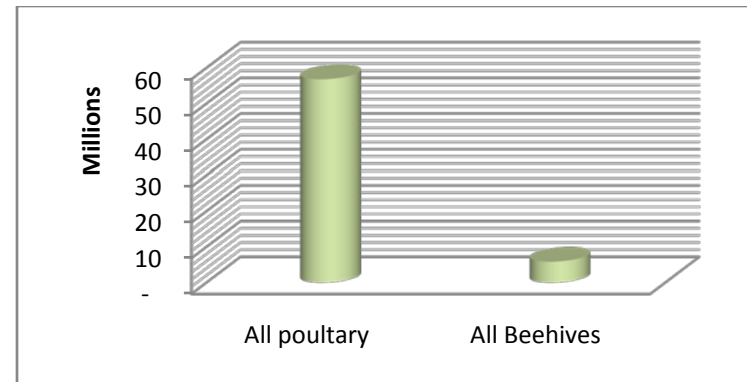
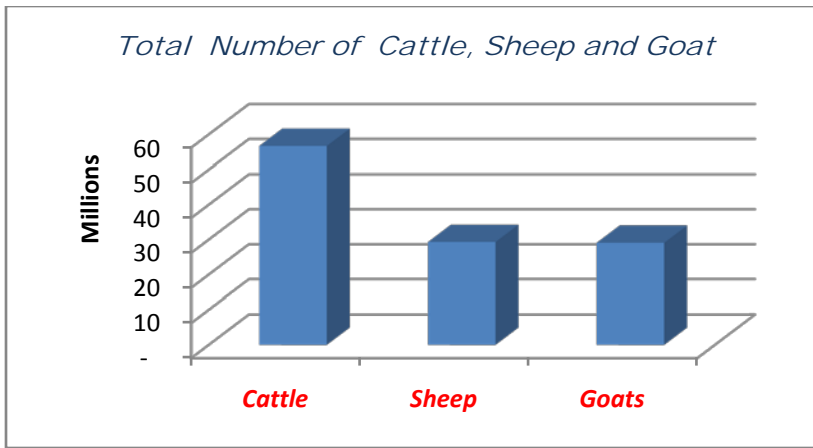


Figure 88: Estimated number of poultry and Beehives (Private peasant holdings, 2014/15)

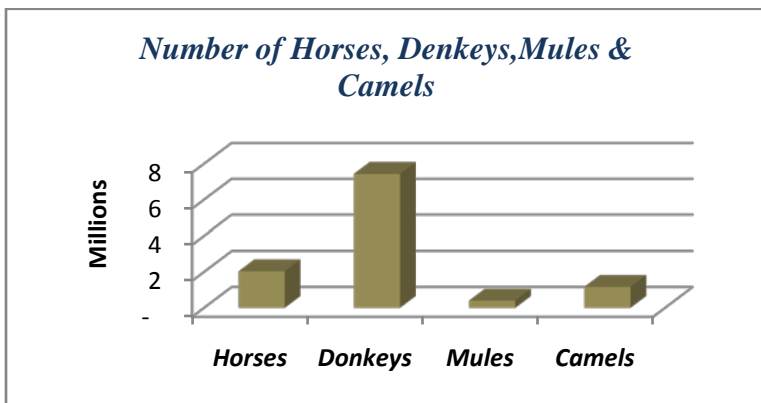


Figure 77: Estimated Number of Livestock's by type, (private small holdings, 2014/15)

At national level the estimated number of poultry population and beehives also indicated in Fig.18.

Livestock products

Although, the various animal products milk and milk products, meat, hides & skins, wools and eggs, due to difficulty and unease of obtaining the data at small holder levels in the country traditional agricultural sector, the survey obliged to collect data on milk, egg and honey productions only.

Milk Production

Estimation of milk production entails three components, namely number of milking cows/camels, number of months milking cows/camels actually milked within the reference period and average milk production per cow/camel per day. Milk production is estimated based on the concept of “net

production”⁴, as indicated in Table 8 the estimate of total cow milk production for the rural sedentary areas of the country was about 3.1 billion liters. On the other hand, the estimate of camel milk for the same areas of the country was about 233 million liters.

Table 8:- Quantity of Milk, Egg and Honey Production (private small holdings, 2014/15)

Livestock Products	Quantity produced
Milk Production in liters	
Cow milk	3,071,977,015
Camel milk	233,845,521
Honey Production in kilo grams	48,711,892
Egg Production (number)	106,570,807

Honey and egg production

The survey result shows that 48.7 million kilograms of honey was produced during the survey year, while the total number of 106 million eggs were produced during the survey year.

⁴ "Net production" consists of whole milk actually milked and milk fed to other animals but excludes milk sucked by young animals.

5. Utilization of Crop and Livestock Products

Crop and livestock product utilization survey data for the year 2014/15 (2007 E.C.) was collected from sedentary rural peasant households by interviewing the selected agricultural holders. According to the result of the survey 67 percent of the cereals produced were used for household consumption. Nearly 14% and 15% were used for seed and sale, respectively. The percentage utilization of crop products is shown in Fig 19.

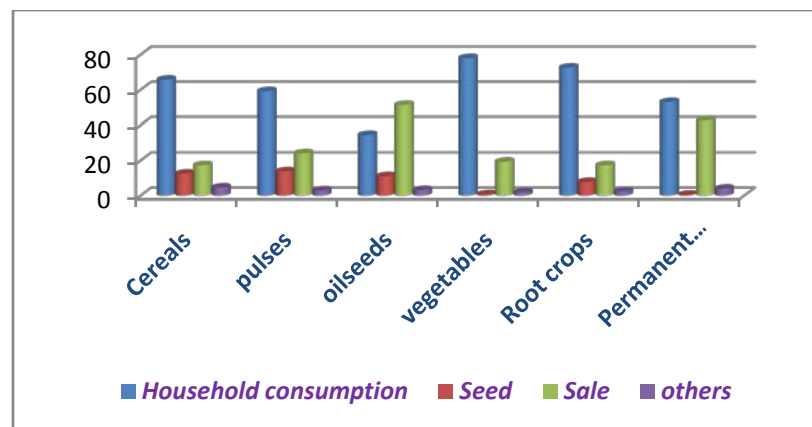


Fig. 19: Farm households Percentage utilization of crops, 2014/15

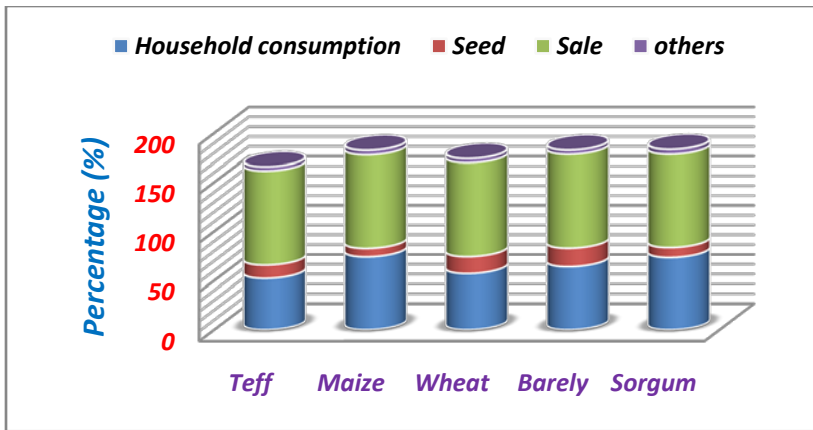


Fig. 20:- Farm households Percentage utilization of Major Cereal crops, 2014/15

Data on the utilization of animal products were also collected during the survey to assess product usage experience of holders. The products for which utilization data intended to be collected were milk, egg, honey, meat, hides and skins, wool and by-products such as butter, cheese, and bees wax. It is commonly accepted that these products are often used for household consumption and/or sold to finance the purchase of basic household commodities such as coffee, salt, cooking oil, sugar, etc. Farm household's utilization of these livestock products are presented in Fig. 21 .

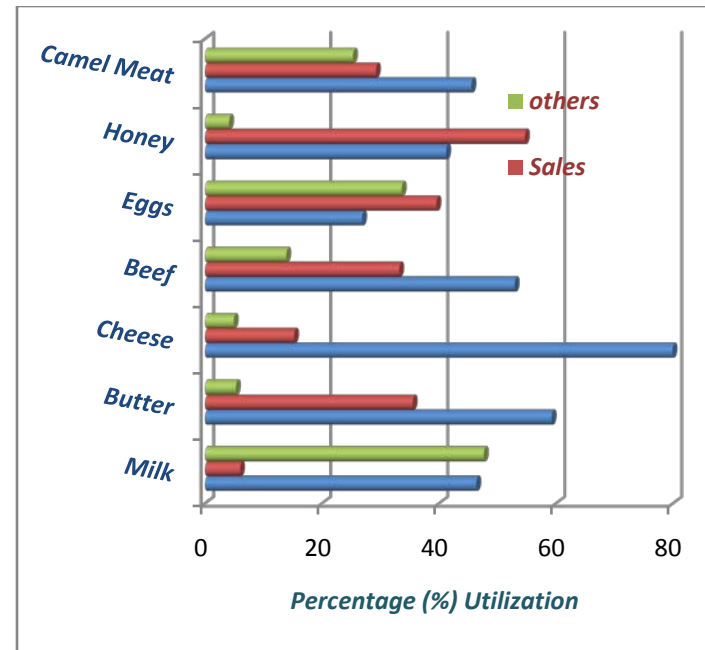


Fig. 21: Farm households Percentage utilization of Major Livestock Products, 2014/15