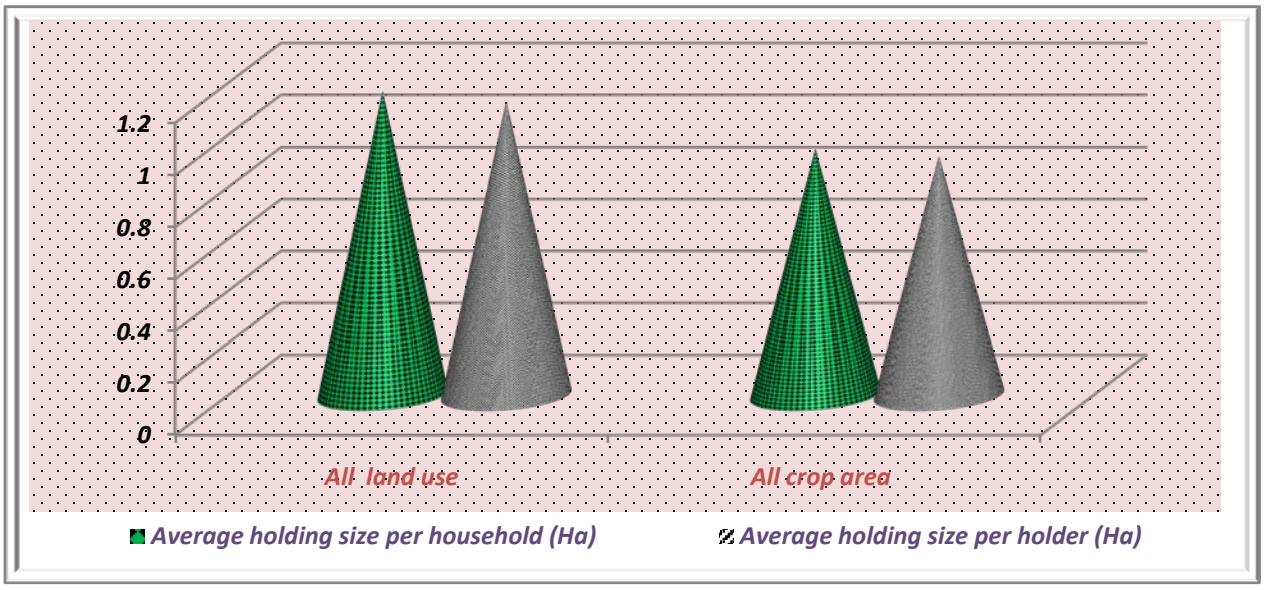
THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

CENTRAL STATISTICAL AGENCY

KEY FINDINGS OF THE 2013/2014 (2006 E.C.)

AGRICULTURAL SAMPLE SURVEYS



COUNTRY SUMMARY

ADDIS ABABA

October, 2014

Part I: INTRODUCTION

As the agricultural sector is main economic sector of the country, the annually conducted agriculture sample surveys 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 both of a particular season as well as the private peasant and commercial farms and over time.

Although statistical reports of the survey results have been compiled and disseminated annually for each survey item, the Agency finds it very useful to prepare this synopsis to data users mainly policy makers which consist of main results of 2013/14 (2006 E.C) Agricultural Sample Survey (AgSS) which will serve as inputs to users to assess the sector's performance during the survey year.

The principal data that were collected were related to crop area and production, agricultural inputs utilization, land use and livestock characteristics at country, regional and zonal 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. Data were elicited from more than about 44,500 agricultural households from 2,225 Enumeration Area (EAs) and over 2,900 commercial farms.

Part II: Highlights on the Key Findings of the 2013/14 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 holders more than half of the share of total agricultural crop output was accounted by grain crops during the 2013/14 (2006 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 (Meher [1] season) were ***12,407,473*** hectares and ***251,536,624*** quintals, respectively. While the figures commercial farms ***602,314*** hectares and ***11,919,953*** quintals, respectively (Tables 1).

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 *9,848,473; 1,742,602* and *816,125* hectares, from which *215,835,226; 28,588,806 and 7,112,592* quintals were harvested, in their respective order.

[1] *Main season of the production year, usually it refers the period from September up to February, during the production year.*

Table 1: Area and Production Grain Crops for Private Peasant Holding & Commercial farms (Main Season, 2013/14)

Crop Type	Private Peasant		Commercial farms	
	Area	Production	Area	Production
Grain Crops	12,407,473	251,536,624	602,314	11,919,953
Cereals	9,848,746	215,835,226	273,826	8,788,401
Pulses	1,742,602	28,588,806	45,729	838,829
Oilseeds	16,125	7,112,592	282,759	2,292,723

Table 2: Area and Production Grain Crops for Private Peasant Holding (Belge Season, 2013/14)

Crop Type	Cultivated Area in Hectare	Production in Quintals
Cereals	1,037,966	9,576,747
Pulses	261,101	1,388,084
Oil Seeds	28,793	5,741

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 about 79% and 86% of grain crop area and production, respectively. The share of cereals from the total grain cropped area was about 45%. For these farms the highest share of total grain cropped area was covered by oil seeds.

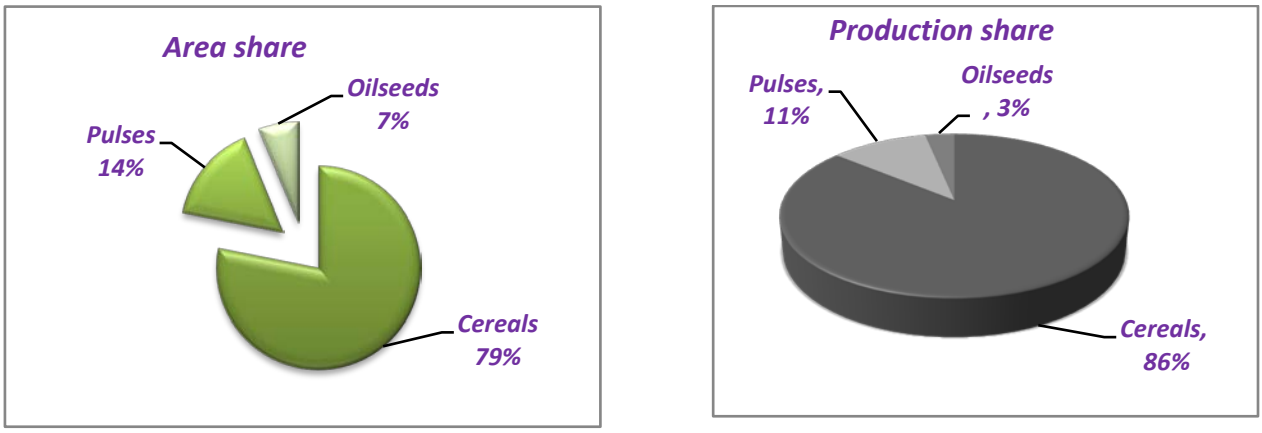


Figure 1: Area and production share of cereals, pulses & oil seeds for private peasant farmers, 2013/14

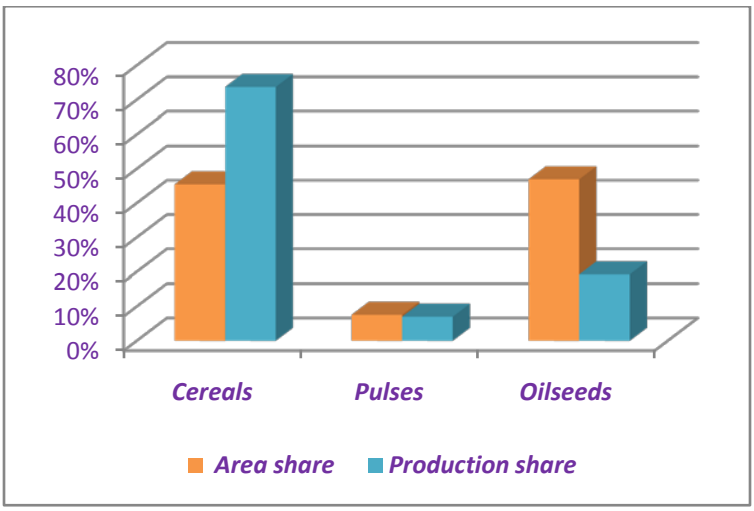


Figure 2: Area and Production share of grain crops for commercial farms (major season 2013/14)

Crop Yield for Selected Major Grain Crops

Productivity crops (amount of crop harvested per unit of land area planted) determine the volume of total agricultural crop production directly. 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 yield of major grain crops both for private small holders and commercial farms for major production season (Mehere) of the year 2013/14 is indicated in Fig.3.

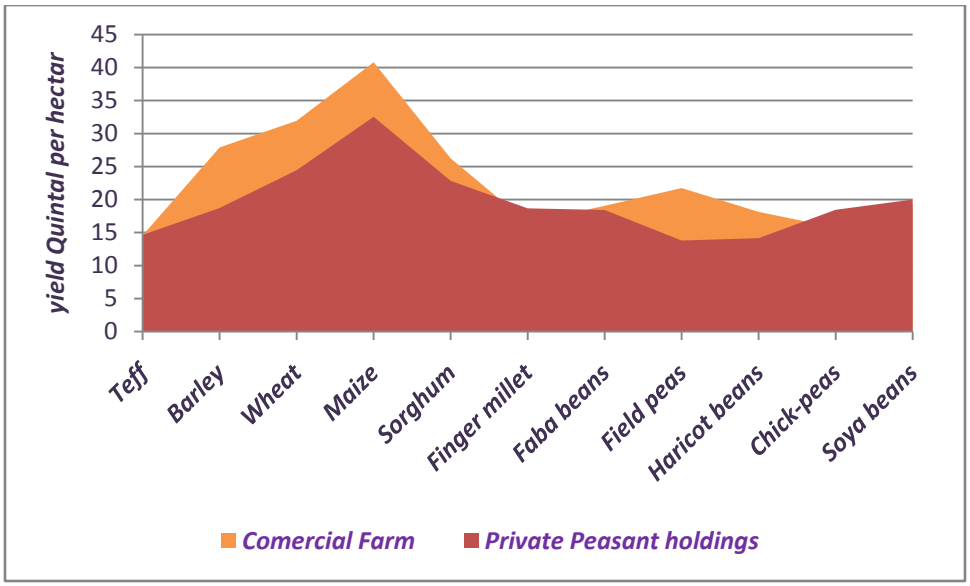


Figure 3: Crop Yield for Selected Major Grain Crops (Private Small holdings & Commercial farms, main season, 2013/14)

1.2. Vegetables, Root and Permanent Crops

During the major season of the survey year a total of 1,985,725 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 141,520,319 quintals (See Table 3).

Table 3: Area and production of Crops for Private & Commercial Farms (Major Season, 2013/14)

Crop Type	Cultivated Area in Hectare		Production in Quintals	
	Private Peasant	Commercial Farms	Private Peasant	Commercial Farms
All Crops	14,144,112	972,849	326,077,132	79,641,442
Grain Crops	12,407,473	602,314	251,536,624	11,919,953
Vegetables	161,488	6,469	7,228,937	830,826
Root Crops	209,880	1,219	41,608,725	295,102
Permanent Crops	1,259,190	347,479	25,702,847	65,853,883

Table 4: Area and Production of Crops for Private Peasant Holding (Belge Season, 2013/14)

Crop Type	Cultivated Area in Hectare	Production in Quintals
Grain Crops	1,327,860	10,970,572
Vegetables	28,174	1,888,449
Root Crops	154,310	12,636,839

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 for private peasant holdings only.

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 7.1 million quintals for private peasant holders during the survey year 2013/14 (Table 5).

From the result nearly half of the total cultivated land was fertilized either organically or inorganically. The total fertilized cultivated land was found 7,433,800 hectares, of which 5,806,319 hectares of land were fertilized by inorganic fertilizer that accounted about 78% 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 around 41 % of the total cultivated cropped area at country level.

Table 5: Quantity of inorganic fertilizer used by private peasant holders by type in Quintal (QT), Main season 2013/14

Crop Type	DAP	Urea	Both (DAP& Urea)	Total
All Crops	1,555,730	226,836	5,322,080	7,104,646
Cereals	1,346,137	176,695	4,843,956	6,366,788
Pulse	126,668	7,538	119,006	253,212
Oile seeds	18,218	9,468	74,255	101,941
Other crops	64,707	33,135	284,863	382,705

Table 6: Amount of Area Covered by Chemical fertilizer by Crop type, private peasant holders (Main season 2013/14)

Crop Type	*All Cultivated land area(Ha)*	*All Fertilized area (Ha)*	*Organic fertilizer (Ha)*	*Inorganic fertilizer(Ha)*
All	*14,144,112*	*7,433,800*	*1,627,481*	*5,806,319*
Cereals	*9,848,746*	*6,061,826*	*833,376*	*5,228,450*
Pulse	*1,742,602*	*422,884*	*170,302*	*252,582*
Oile seeds	*816,125*	*126,776*	*37,202*	*89,574*

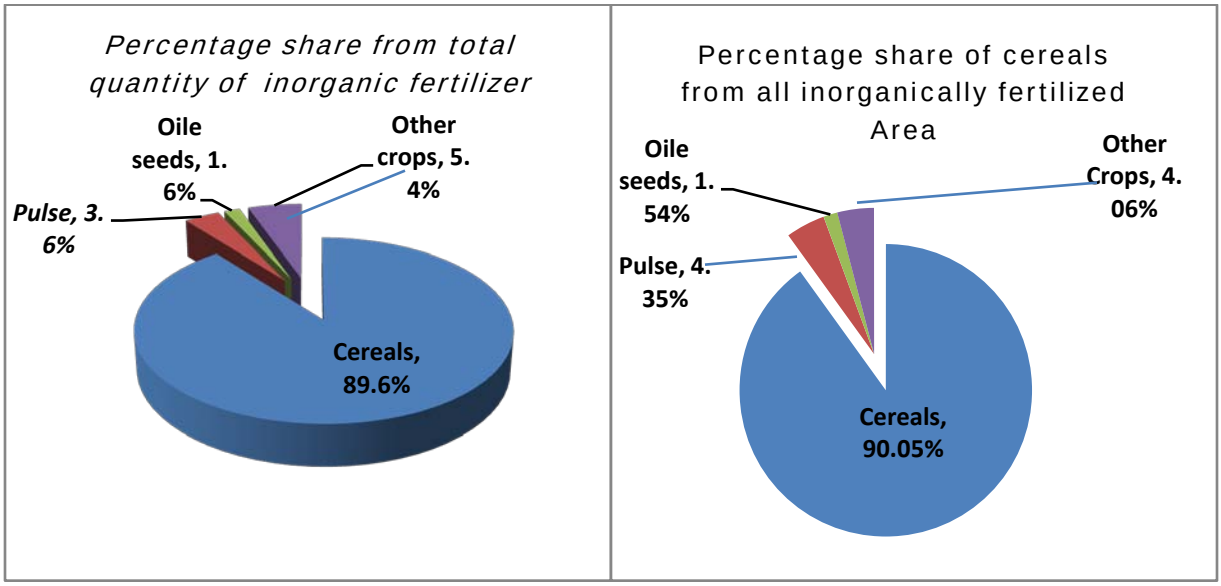


Figure 4: Percentage share of crop area and quantity of inorganic fertilizer by crop type (private small holdings, main season, 2013/14)

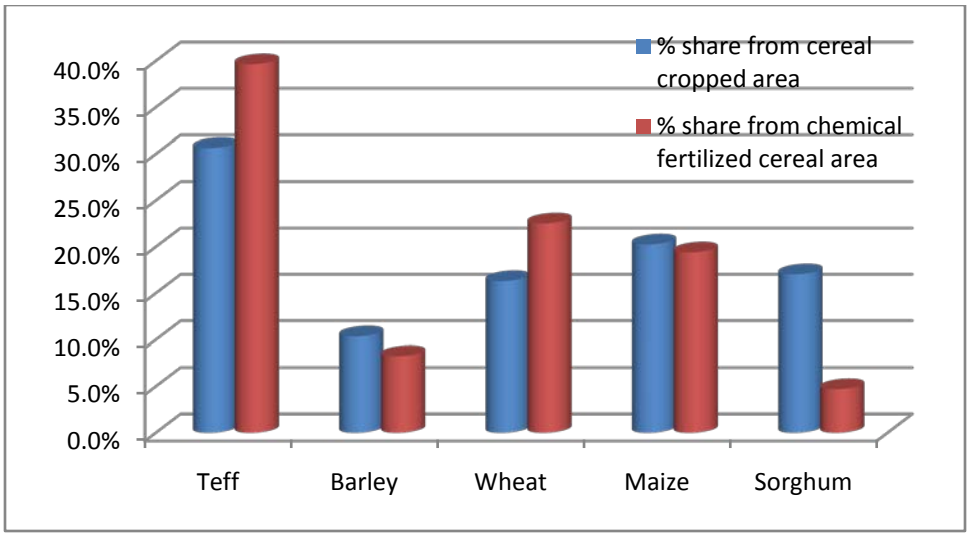


Figure 5: Share of major cereal crops from all cropped and chemical fertilized cereals (private small holdings, main season, 2013/14)

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.

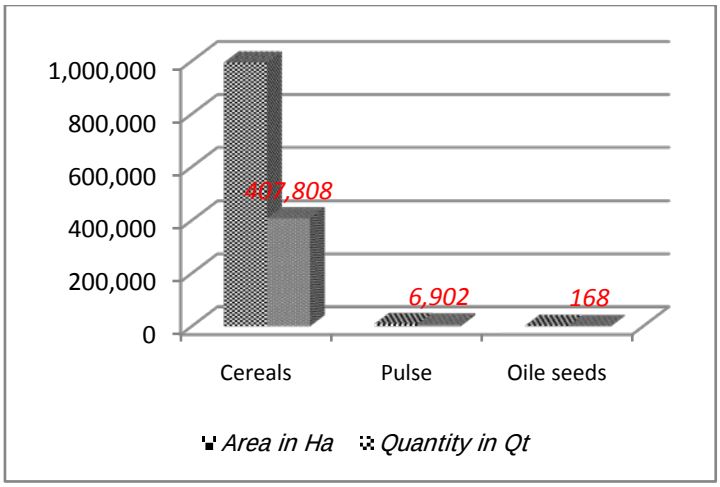


Figure 6: Area covered and quantity of improved seed by type of crops (private small holdings, main season, 2013/14)

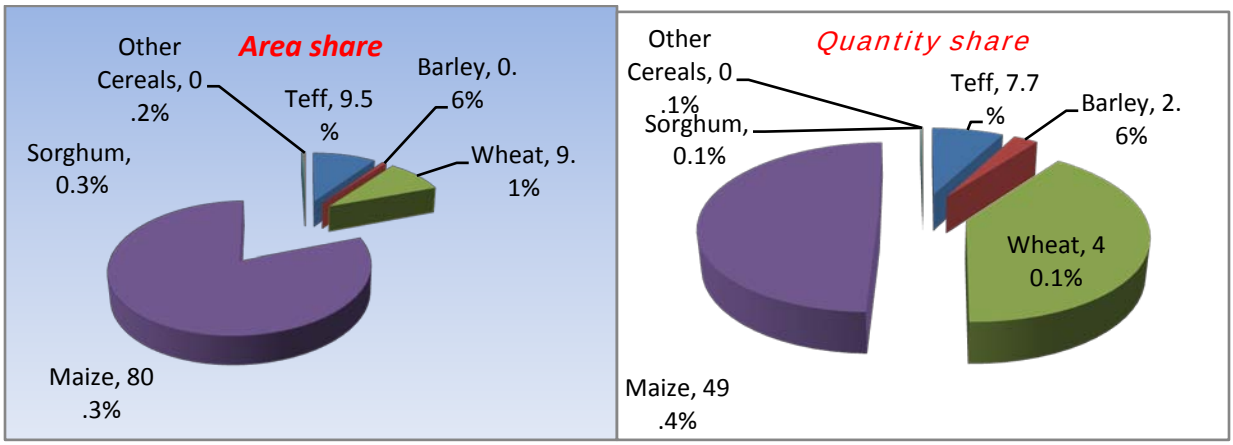


Figure 7: Area and Quantity share of cereal crops from improved cereal by type (private small holdings, main season, 2013/14)

As shown in Fig.7, from the total area under improved seed allocated to cereals on an average 80% was covered by maize. The share for wheat, *teff* and Barely were 9.1%, 9.5 % and 0.6%, 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, 1.8 & 1.6 Quintal per hectare, respectively and the lowest application rate was for sorghum (0.19

quintal per hectare). The application rate for *teff* and maize were 0.33 quintal and 0.25 quintal per hectare of cultivated land, respectively, as shown in Fig. 8.

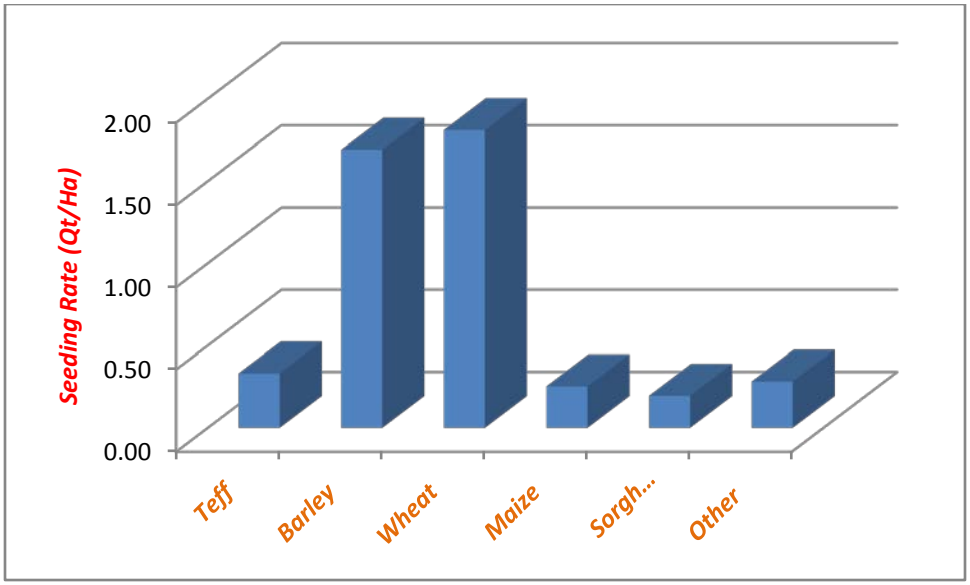


Figure 8: Application rate of improved seed for major cereals (private small holdings, main season, 2013/14)

2.3. Irrigated Area

The total irrigated land for the year 2013/14(2006 E.C.) was more than 166 thousand hectares. The crop land under the practice of irrigation increased from the previous production year. On average only 1.2% of the total cultivated land was under irrigation. Of these irrigated land about 40% was covered by cereals.

Table 7: Pesticide applied and irrigated cultivated land in hectares by crop type (private small holdings, main season, 2013/14)

Crop type	Area in hectare	
	Pesticide applied	Irrigated land
All	2,762,463	166,384
Cereals	2,573,802	67,019
Teff	1,192,319	12,115
Barley	234,184	3,741
Wheat	757,864	5,917
Maize	112,874	27,587
Sorghum	153,980	16,163

2.4. Pesticide Applied

The total pesticide applied area for the year 2013/14 (2006 E.C.) main production season was more than 2.76 million hectares. The majority of the pesticide applied cultivated land was on cereal crops (Table 7).

2.5. Extension Package Program

As the findings of the survey indicate around 35% of the cultivated land under cereal crops was covered by extension package program. In 2013/14 main cropping season, the number of holders participating in various crop extension packages was estimated to be more than 6.5 million, as presented in Fig. 9.

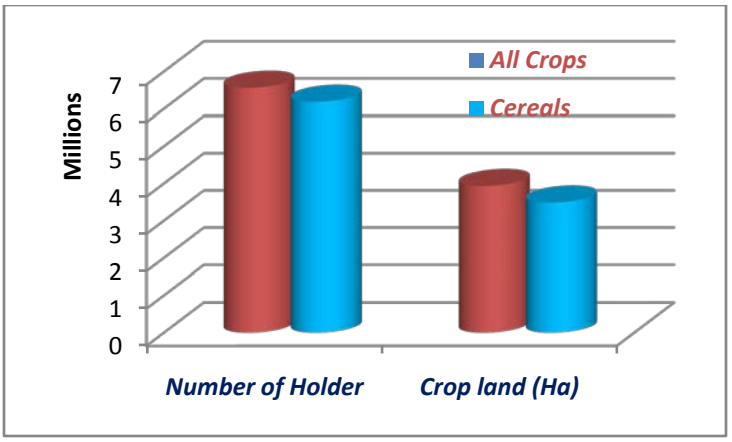


Figure 9: The number of holders and crop land under extension package (private small holdings, main season, 2013/14)

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 2013/14 production year. The survey results on the total land area under different types of land uses shown in Fig. 10 below. According to the result about 17.9 million hectares of land was used in different types of land use by small holder farmers during the major season of the survey year.

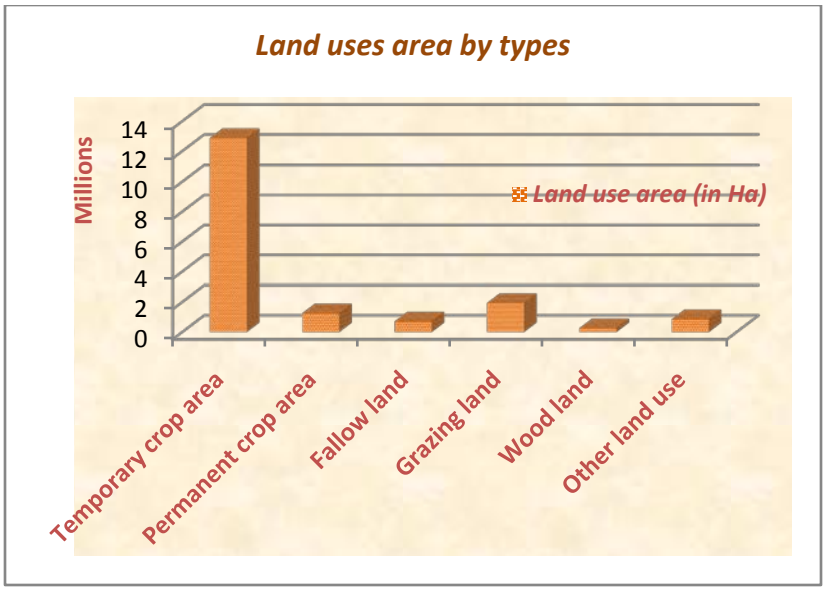


Figure 10: Total Land Use Area Disaggregated by Land Use Types for Private Peasant Holding, 2013/14

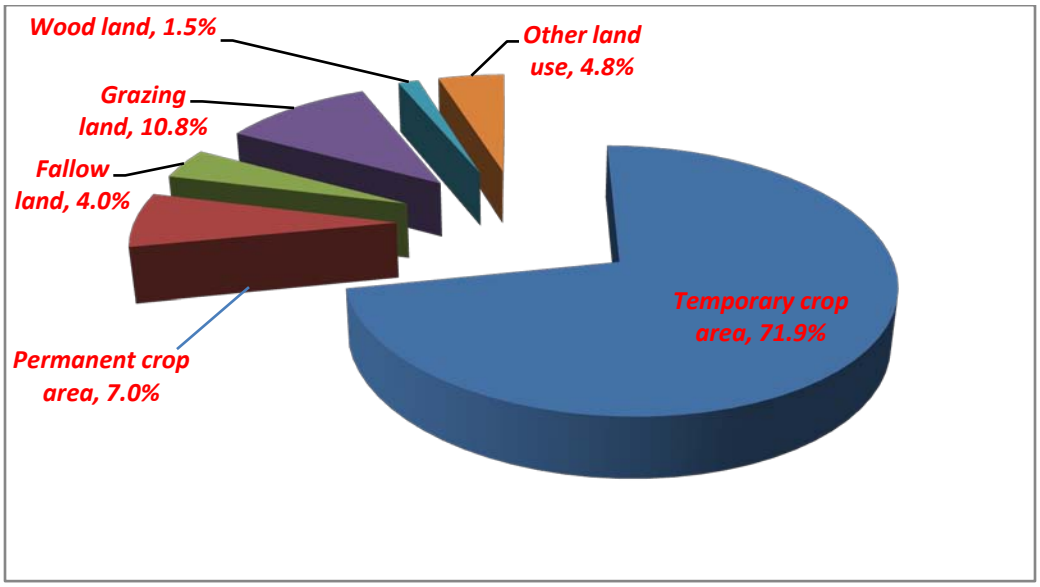


Figure 11: Percentage share of land use by types, Private peasant holdings 2013/14

The total land of used for temporary crops cultivation was more than 12.8 million hectares. The land used for cultivation of permanent crops and grazing land were

1.2 and 1.9 million hectares, respectively. The percentage share of land area for temporary crops was about 72%, while share of land area for permanent crops and grazing land 7 % & 10.8%, respectively. The survey result shows that level there were 15.5 million agricultural holders and around 15 million agricultural households all over the country. The average holding sizes per household and per holder were 1.17 hectare and 1.13 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.

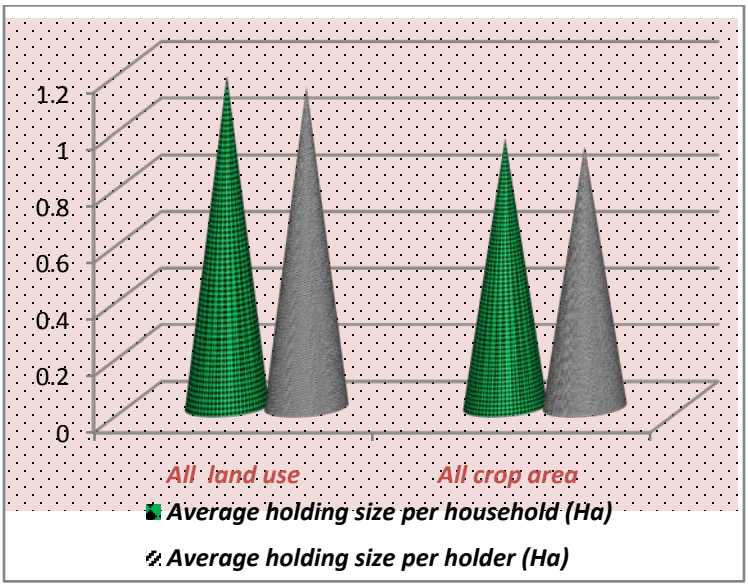


Figure 12: Average holding size per households & holder, 2013/14 production year

4. LIVESTOCK CHARACTERISTICS

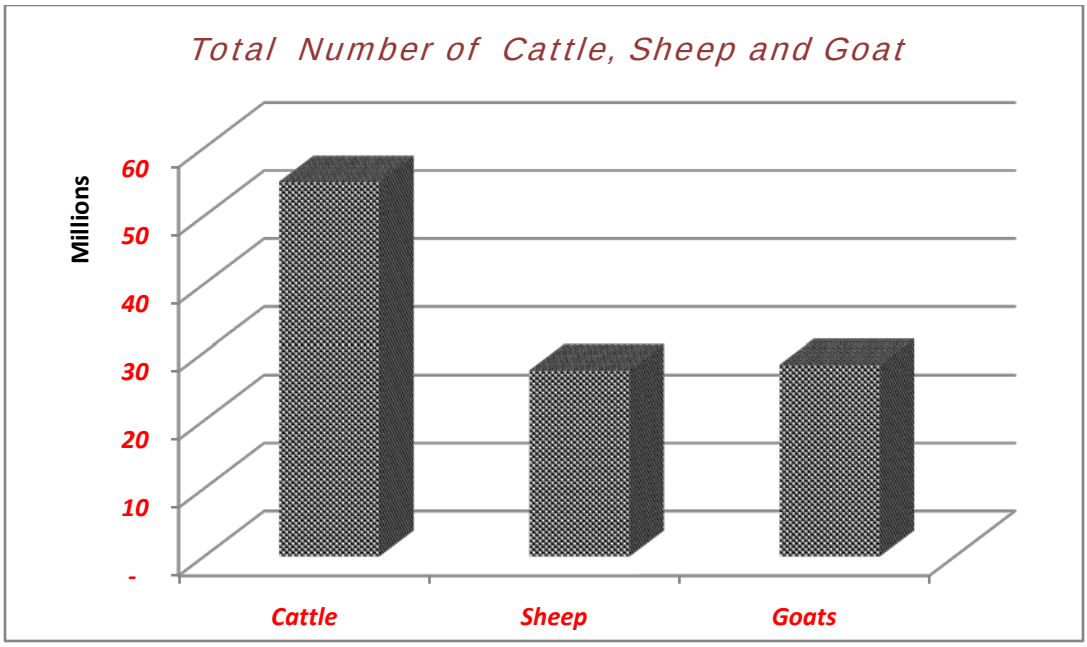
Among Africa countries Ethiopia considered to have the largest livestock population. There are huge number of cattle, sheep, goats, horse, donkeys, mules, camels, poultry and beehives in the country. This livestock sector has been contributing considerable portion to the economy of the country, and still promising to rally round the economic development of the country. The Annual Livestock 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.

The Economic Value of Livestock[2]

Livestock products and by-products in the form of meat, milk, honey, eggs, cheese, and butter supply etc. provide the needed animal proteins that contribute to the improvement of the nutritional status of the people. During the survey year (2013/14) 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

[2] ***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.*

to production of crops and transportation, at country level are indicated in Fig.13 below.



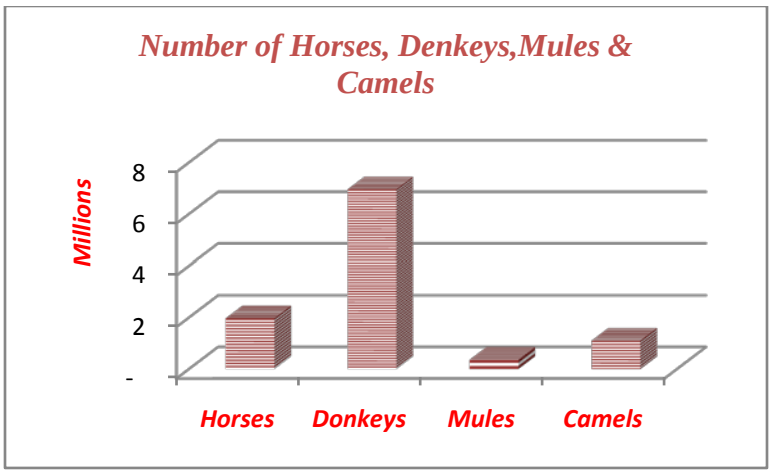


Figure 43: Estimated Number of Livestock's by type, (private small holdings, 2013/14)

At national level the estimated number of poultry population and beehives also indicated in Fig.14.

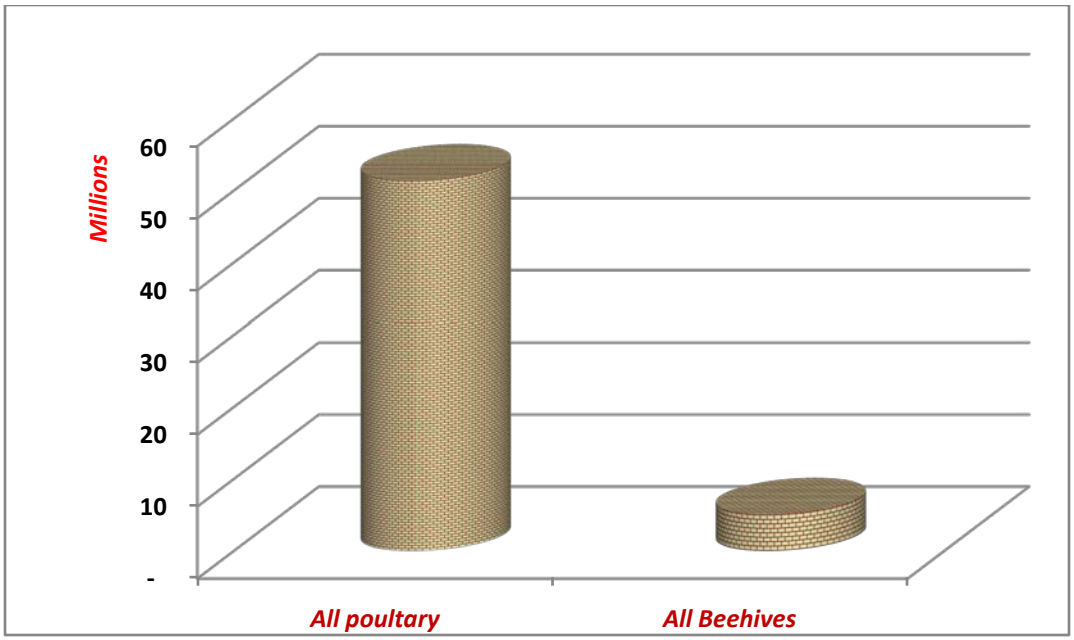


Figure 54: Estimated number of poultry and Beehives (Private peasant holdings, 2013/14)

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"[3], as indicated in Table 5 the estimate of total cow milk production for the rural sedentary areas of the country was about 2.9 billion liters. On the other hand, the estimate of camel milk for the same areas of the country was about 230 million liters.

Table 8: Quantity of Milk, Egg and Honey Production (private small holdings, 2013/14)

Livestock Products	Quantity produced
Milk Production in liters	
Cow milk	2,903,247,759
Camel milk	230,509,032
Honey Production in kilo grams	43,801,680
Egg Production (number)	100,841,464

Honey and egg production

The survey result shows that 43.8 million kilograms of honey was produced during the survey year, while the total number of 100 million eggs were produced during the survey year .

5. Utilization of Crop and Livestock Products

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

Crop and livestock product utilization survey data for the year 2013/14 (2006 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 percent were used for seed and sale, respectively. The percentage utilization of crop products is shown in Fig 15.

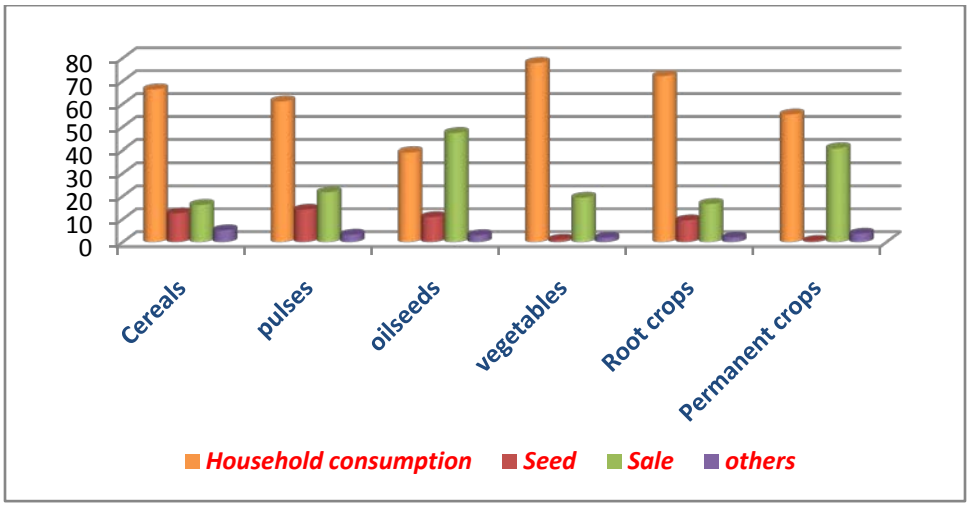


Fig. 15: Farm households Percentage utilization of crops, 2013/14

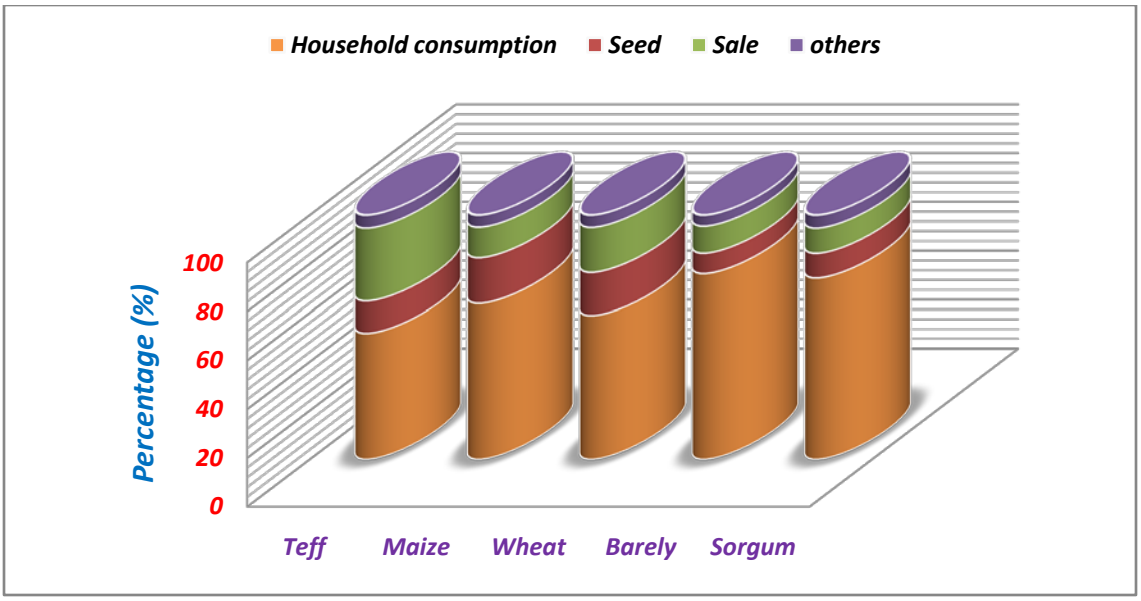


Fig. 16: Farm households Percentage utilization of Major Cereal crops, 2013/14

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. 17 below.

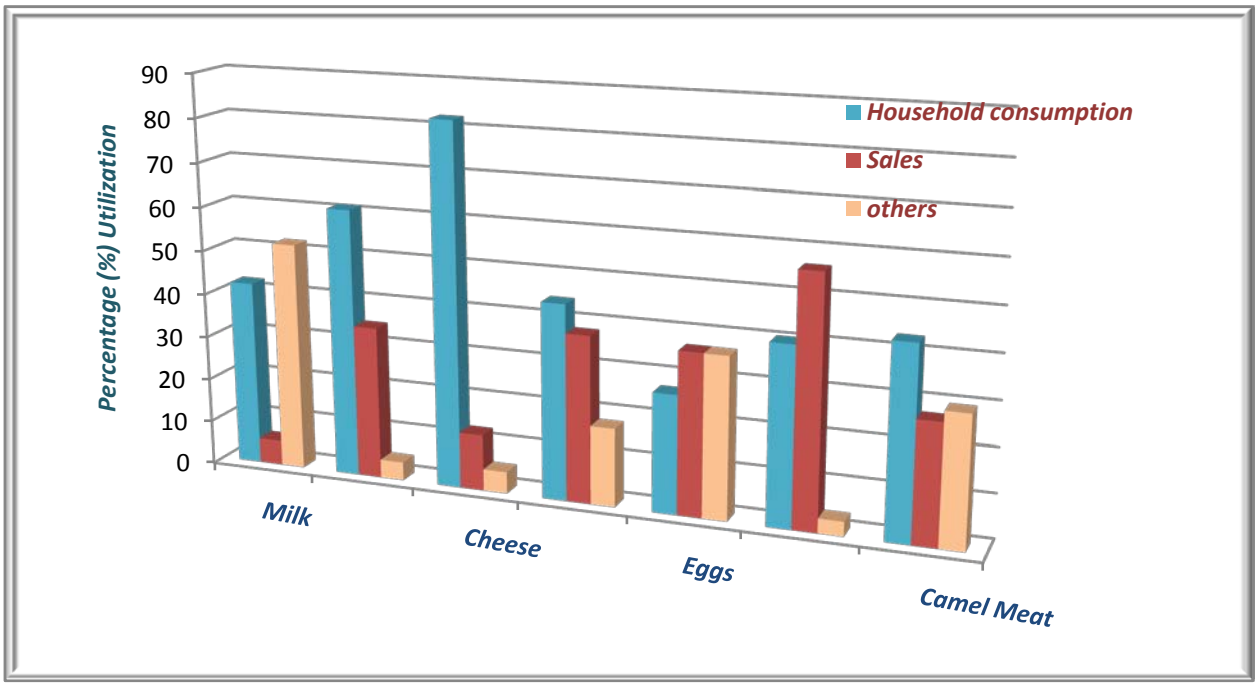


Fig. 17: Farm households Percentage utilization of Major Livestock Products, 2013/14