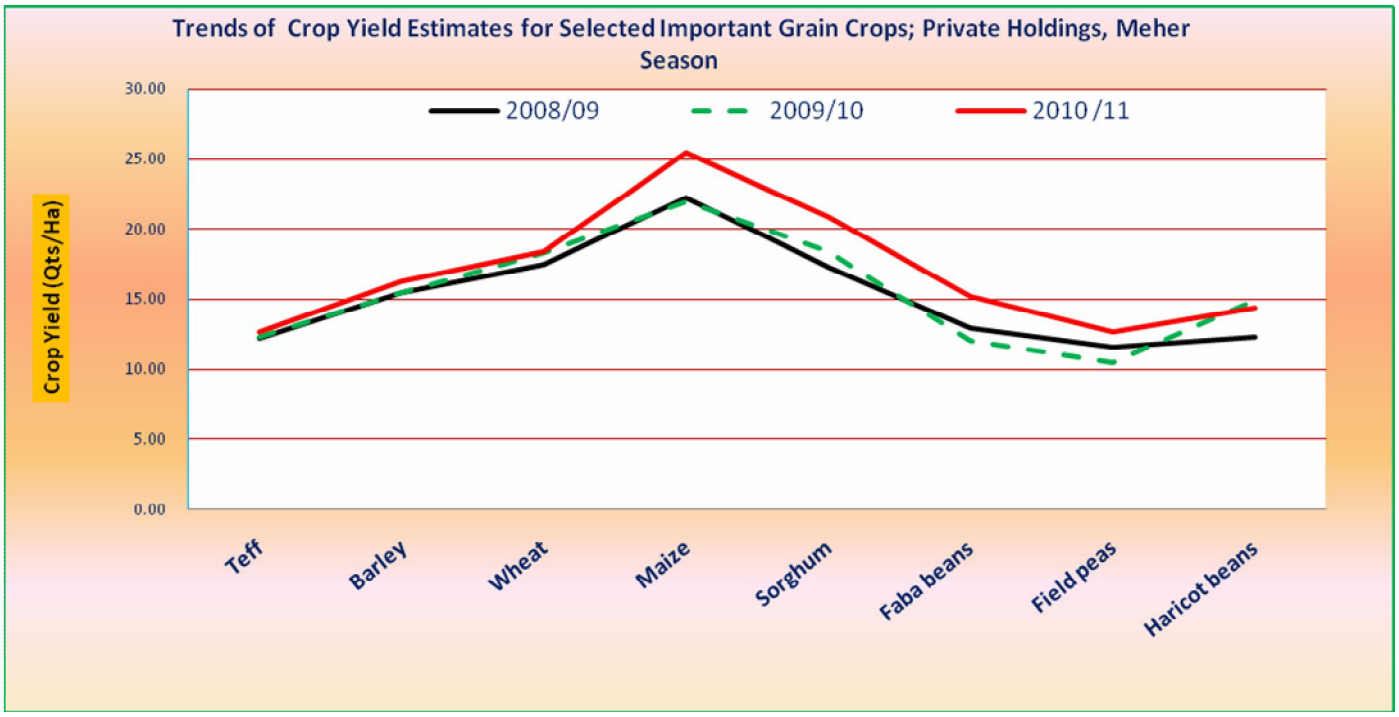
THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

CENTRAL STATISTICAL AGENCY

AGRICULTURE IN FIGURES

KEY FINDINGS OF THE 2008/09 – 2010/11 AGRICULTURAL SAMPLE SURVEYS FOR ALL SECTORS AND SEASONS



COUNTRY SUMMARY

ADDIS ABABA
OCTOBER, 2011

1. INTRODUCTION

Since 1980/81, the Central Statistical Agency has conducted over 30 annual agricultural sample surveys and one agricultural sample census. 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 abstract to data users mainly policy makers which consist of a three years time series data, i.e., 2008/09 – 2010/11 which will serve as inputs to users to assess the sector's performance over the last three consecutive years.

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 of both Meher and Belg seasons. Data were elicited from more than about 66,000 agricultural households, 2,230 commercial farms and from over 2,200 Enumeration Areas.

2. Highlights on the Key Findings of the 2008/09 - 2010/11 Annual Agricultural Sample Survey Results

2.1 GRAIN CROPS

(All Sectors : Both Meher & Belg Seasons)

The years 2008/09 - 2010/11, total cropland area and production of major crops during both Meher & Belg seasons and in both Private peasant & Commercial Farms, shown in Figs. 2.1and 2.2 and Tables 2.1 and 2.2, respectively.

As shown in the above mentioned tables and figures, cereals, pulses and oilseeds covered about ***10,807,452.82; 1,582,029.84*** *and* ***1,058,595.07*** *hectares, (contributing* ***80.36%; 11.76%*** *and* ***7.87%*** *in 2010/11 from which a total production of* ***190,685,028.53****;* ***20657235.42*** *and* ***9356620.75*** *quintals were harvested, respectively.*

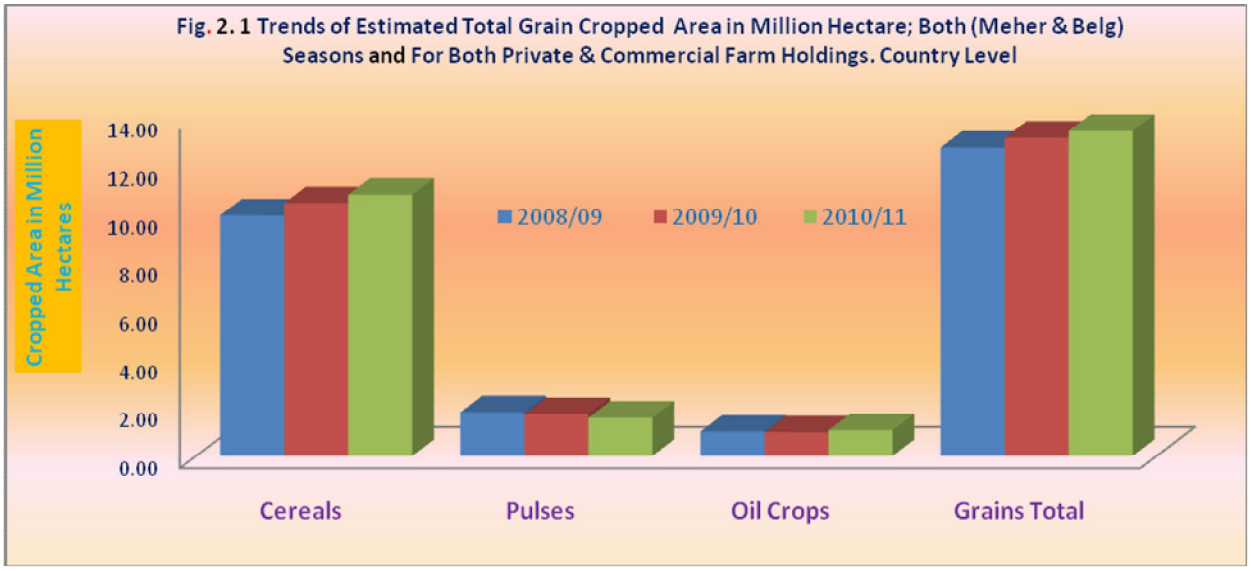


Table 2.1 Trends of Estimated Total Grain Cropped Area: Both Meher & Belg Seasons, and Private Peasant & Commercial Farm, 2008/09 - 2010/11.

Sectors	Crop Type	Total Cropped Area in Hectare			% change of 2010/11 over	
		2008/09	2009/10	2010/11	2008/09	2009/10
Private Peasant Holdings	Cereals	9,766,362.70	10,246,693.05	10,625,679.74	8.8	3.7
	Pulses	1,790,833.21	1,710,769.17	1,568,984.66	-12.39	-8.29
	Oil Crops	862,876.10	790,195.77	801,169.31	-7.15	1.39
	Grains Total	**12,420,072.01**	**12,747,657.99**	**12,995,833.71**	**4.64**	**1.95**
Commercial Farms	Cereals	185451	211089.95	181773.08	-1.98	-13.89
	Pulses	13035	16636.55	13045.18	0.08	-21.59
	Oil Crops	143623	187775.8	257425.76	79.24	37.09
	Grains Total	**342109**	**415502.3**	**452244.02**	**32.19**	**8.84**
Total (All Sectors)	Cereals	9,951,813.70	10,457,783.00	10,807,452.82	8.6	3.34
	Pulses	1,803,868.21	1,727,405.72	1,582,029.84	-12.3	-8.42
	Oil Crops	1,006,499.10	977,971.57	1,058,595.07	5.18	8.24
	Grains Total	**12,762,181.01**	**13,163,160.29**	**13,448,077.73**	**5.37**	**2.16**

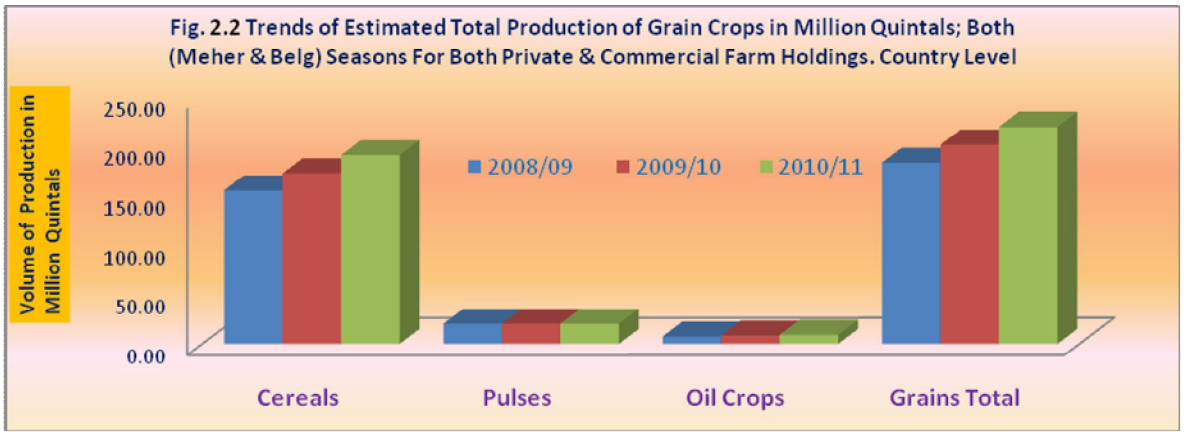


Table 2.2 Trends of Estimated Total Grain Crops Production: Both Meher& Belg Seasons, and Private Peasant & Commercial Farms: 2008/09 - 2010/11

Sectors	Crop Type	Total Production in Quintals			% change of 2010/11 over	
		2008/09	2009/10	2010/11	2008/09	2009/10
Private Peasant Holdings	Cereals	151,906,063.78	167,078,704.09	185,694,155.66	22.24	11.14
	Pulses	20,449,641.98	20,408,408.63	20,444,720.19	-0.02	0.18
	Oil Crops	6,561,134.90	6,437,143.36	6,354,643.13	-3.15	-1.28
	Grains Total	**178,916,840.66**	**193,924,256.08**	**212,493,518.98**	**18.77**	**9.58**
Commercial Farms	Cereals	4161776.06	6129657.91	6112919.39	46.88	-0.27
	Pulses	154897.79	241314.13	212515.23	37.20	-11.93
	Oil Crops	1215739.77	2165523.52	3001977.62	146.93	38.63
	Grains Total	**5532413.62**	**8536495.56**	**9327412.24**	**68.60**	**9.27**
Total (All Sectors)	Cereals	156,067,839.84	173,208,362.00	191,807,075.05	22.90	10.74
	Pulses	20,604,539.77	20,649,722.76	20,657,235.42	0.26	0.04
	Oil Crops	7,776,874.67	8,602,666.88	9,356,620.75	20.31	8.76
	Grains Total	**184,449,254.28**	**202,460,751.64**	**221,820,931.22**	**20.26**	**9.56**

Table 2.3 Trends of Regional Level Total Estimated Grain Cropped Areas: Both Meher & Belg Seasons and Private Peasant & Commercial Farms, 2008/09 - 2010/11

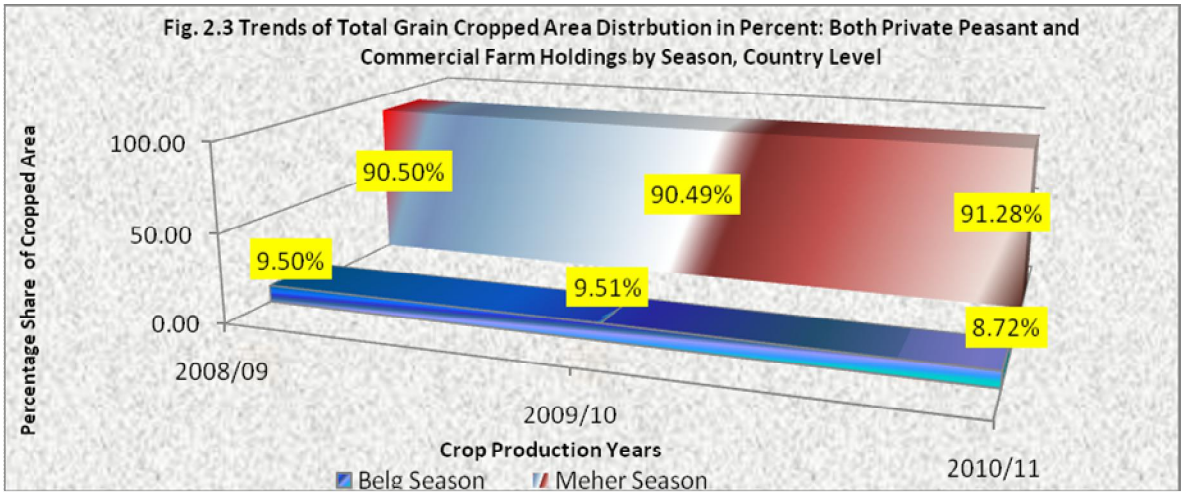
Production Year	Crop Types	Total Cropped Area in Hectare						
		TIGRAY	AMHARA	OROMIA	BENISHANGUL-GUMUZ	S.N.N.P.R.	All Other Regions	Country Total
2008/09	Cereals	768,733.7	3,110,205.9	4,697,806.2	143,290.4	1,103,658.2	128,119.2	9,951,813.7
	Pulses	72,895.4	753,950.8	710,043.1	10,046.2	255,252.0	1,680.8	1,803,868.2
	Oil Crops	169,685.0	365,216.0	405,509.2	47,524.0	13,125.9	5,439.3	1,006,499.1
	Grains Total	1,011,313.6	4,229,372.9	5,813,358.5	200,860.5	1,372,036.1	135,239.3	12,762,181.0
2009/10	Cereals	735,214.9	3,129,906.6	5,121,198.6	161,616.9	1,173,128.5	136,717.6	10,457,783.0
	Pulses	65,261.4	739,626.7	670,381.6	9,794.3	240,122.2	2,219.6	1,727,405.7
	Oil Crops	202,760.0	374,250.1	335,113.9	40,077.2	20,413.3	5,357.1	977,971.6
	Grains Total	1,003,236.3	4,243,783.3	6,126,694.1	211,488.3	1,433,664.0	144,294.3	13,163,160.3
2010/11	Cereals	744,192.3	3,405,417.4	5,155,242.6	187,863.3	1,177,892.0	136,845.2	10,807,452.8
	Pulses	37,437.9	587,961.5	637,667.1	16,216.3	298,369.3	4,377.7	1,582,029.8
	Oil Crops	195,956.0	401,312.3	333,102.5	103,808.8	17,588.4	6,827.1	1,058,595.1
	Grains Total	977,586.2	4,394,691.2	6,126,012.2	307,888.4	1,493,849.7	148,050.0	13,448,077.7
		% Change of 2010/11. Over 2008/09 Production Year						
% Change 2010/11 Over 2008/09	Cereals	-3.19	9.49	9.74	31.11	6.73	6.81	8.6
	Pulses	-48.64	-22.02	-10.19	61.42	16.89	160.46	-12.3
	Oil Crops	15.48	9.88	-17.86	118.43	34	25.51	5.18
		% Change of 2010/11 Over 2009/10 Production Year						
% Change 2010/11 Over 2009/10	Cereals	1.22	8.8	0.66	16.24	0.41	0.09	3.34
	Pulses	-42.63	-20.51	-4.88	65.57	24.26	97.23	-8.42
	Oil Crops	-3.36	7.23	-0.6	159.02	-13.84	27.44	8.24

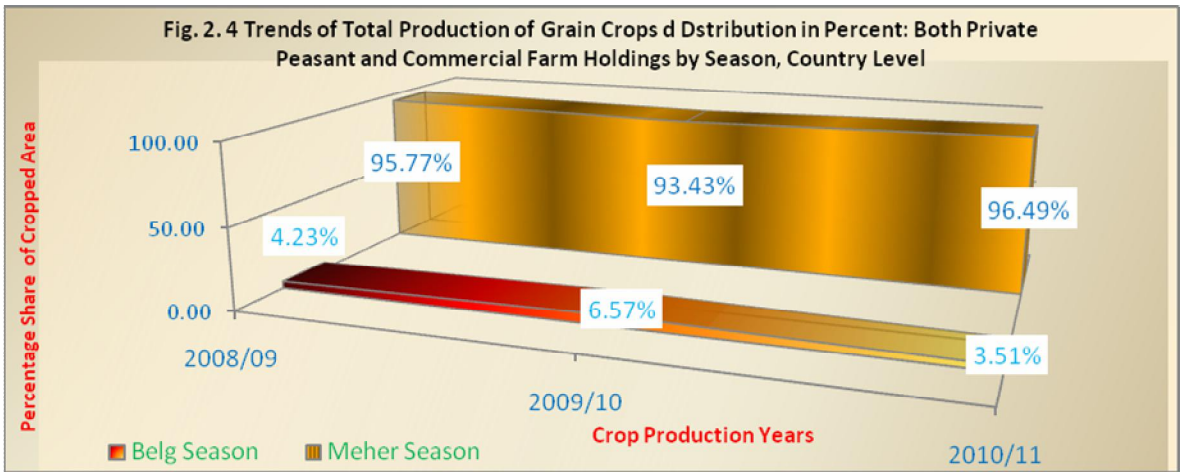
Table 2.4 Trends Regional Level of Estimated Total Production of Grain Crops: Both Meher & Belg Seasons and Private Peasant & Commercial Farms: 2008/09 - 2010/11

Production Year	Crop Types	Total Production in Quintals						
		TIGRAY	AMHARA	OROMIA	BENISHANGUL-GUMUZ	S.N.N.P.R.	All Other Regions	Country Total

2008/09	Cereals	11,290,733.4	47,117,836.4	77,876,755.2	2,481,519.0	14,635,995.4	2,665,000.3	156,067,839.8
	Pulses	837,968.1	9,244,765.2	8,214,696.8	112,290.4	2,176,971.7	17,847.6	20,604,539.8
	Oil Crops	1,737,036.3	2,593,489.3	2,926,866.6	393,131.3	64,606.3	61,744.9	7,776,874.7
	Grains Total	13,865,737.8	58,956,090.9	89,018,318.6	2,986,940.8	16,877,573.4	2,744,592.8	184,449,254.3
2009/10	Cereals	10,206,676.9	48,485,933.1	90,909,934.5	3,190,005.5	17,822,615.1	2,593,196.9	173,208,362.0
	Pulses	798,330.6	8,780,797.3	8,387,152.7	141,705.2	2,523,707.3	18,029.7	20,649,722.8
	Oil Crops	2,234,416.7	2,981,309.5	2,797,009.2	366,350.4	142,566.9	81,014.2	8,602,667.0
	Grains Total	13,239,424.3	60,248,039.9	102,094,096.4	3,698,061.0	20,488,889.4	2,692,240.7	202,460,751.6
2010/11	Cereals	13,666,830.6	58,428,976.0	96,125,956.0	3,600,429.6	17,912,511.5	2,072,371.4	191,807,075.1
	Pulses	519,296.7	7,686,068.5	9,022,520.2	209,811.6	3,194,940.0	24,598.5	20,657,235.4
	Oil Crops	2,379,511.7	3,341,475.1	2,463,539.6	991,126.9	68,542.7	112,424.9	9,356,620.8
	Grains Total	16,565,638.9	69,456,519.6	107,612,015.8	4,801,368.1	21,175,994.1	2,209,394.7	221,820,931.2
		% Change of 2010/11. Over 2008/09 Production Year						
% Change 2010/11 over 2008/09	Cereals	21.04	24.01	23.43	45.09	22.39	-22.24	22.9
	Pulses	-38.03	-16.86	9.83	86.85	46.76	37.83	0.26
	Oil Crops	-	-	-15.83	-	6.09	82.08	20.31
		% Change of 2010/11 Over 2009/10 Production Year						
% Change 2010/11 over 2009/10	Cereals	33.9	20.51	5.74	12.87	0.5	-20.08	10.74
	Pulses	-34.95	-12.47	7.58	48.06	26.6	36.43	0.04
	Oil Crops	6.49	12.08	-11.92	170.54	-51.92	38.77	8.76

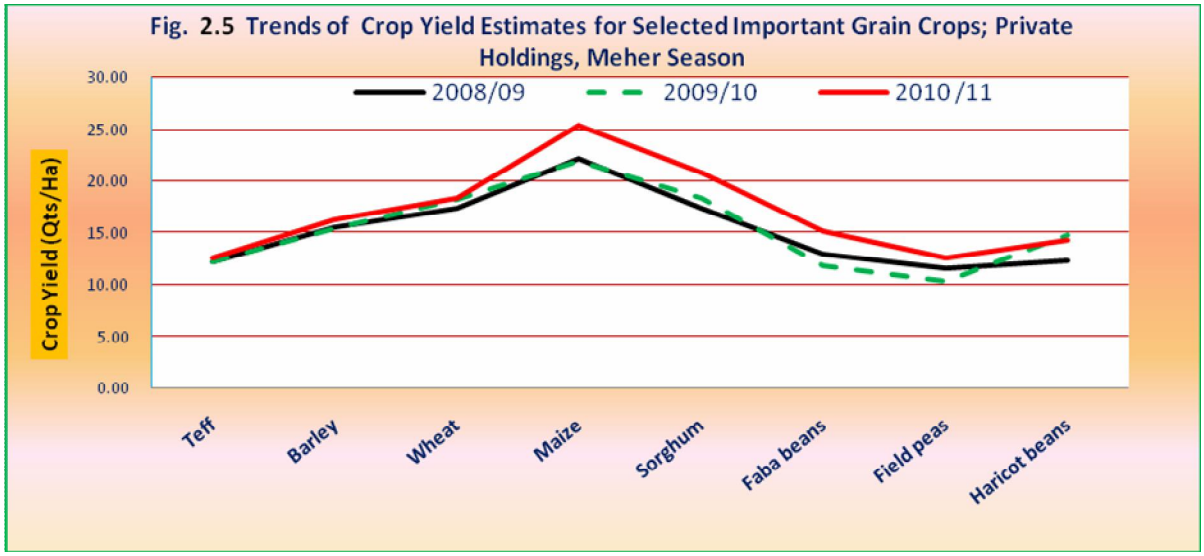
The share of Meher and Belg seasons over the past three years is shown in Figs. 2.3 and 2.4





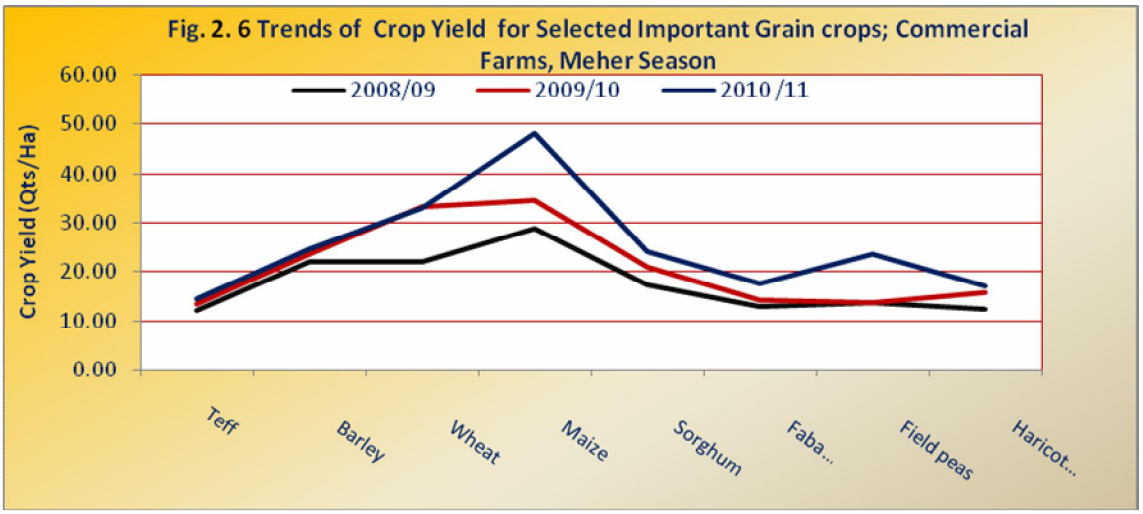
Crop Yield for Selected Important Crops

Crop yield /productivity (amount of crop harvested per unit of land area planted) 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.



Figures 2.5 and 2.6 show the trend of yield over time for private peasant holdings and commercial farms, respectively.

The survey findings indicate that Meher Season crop yields of the selected important crops have shown significant increment every year. As indicated in Figures 2.5 and 2.6, the 2010/11 Meher season estimated crop yields for the selected important grain crops are higher in terms of volume of production obtained per unit area than those reported in 2008/09 and 2009/10 Meher seasons.



2,2. Vegetables, Root and Permanent Crops

The results of the 2010/11 (2003 E.C.), Agricultural Sample Survey indicate that the estimated cropped land area and the production of root and permanent crops have shown increase of about 49.20% and 26.22% in cropped area and 64.82% increase in production of root crops and a decrease of 2.2 % of permanent crop production when compared with 2008/09 post harvest estimates, respectively (for details see Tables 2.5 and 2.6).

Table 2.5 Trends of Estimated Total Vegetables, Root , Enset & Permanent Cropped Area: Both Private Peasant & Commercial Farms, 2008/09 - 2010/11 Meher Season

Sectors	Crop Type	Total Cropped Area in Hectare	% change 2010/11 over

		2008/09	2009/10	2010/11	2008/09	2009/10
Private Peasant Holdings	Vegetables	162,125.0	138,392.5	126,675.7	-21.87	-8.47
	Root Crops	145,741.9	212,208.3	214,346.5	47.07	1.01
	Enset	278,667.5	395,632.5	301,978.7	8.37	-23.67
	Coffee	391,295.9	395,003.5	498,617.9	27.43	26.23
	Permanent Crops	226,146.1	234,804.3	304,306.3	34.56	29.6
	Sub - Total	**1,203,976.4**	**1,376,041.1**	**1,445,924.9**	**20.1**	**5.08**
Commercial Farms	Vegetables	3,536.0	4,333.6	7,309.2	106.71	68.66
	Root Crops	884.0	1,538.7	4,419.6	399.96	187.23
	Enset	34.0	-	35.6	4.82	*
	Coffee	51,673.0	56,882.2	75,048.8	45.24	31.94
	Permanent Crops	74,057.0	62,774.3	74,595.3	0.73	18.83
	Sub - Total	**130,184.0**	**125,528.7**	**161,408.6**	**23.98**	**28.58**
Total (All Sectors)	Vegetables	165,661.0	142,726.1	133,984.8	-19.12	-6.12
	Root Crops	146,625.9	213,747.0	218,766.1	49.2	2.35
	Enset	278,701.5	395,632.5	302,014.3	8.36	-23.66
	Coffee	442,968.9	451,885.6	573,666.7	29.5	26.95
	Permanent Crops	300,203.1	297,578.5	378,901.6	26.22	27.33
	Grand Total	**1,334,160.4**	**1,501,569.8**	**1,607,333.5**	**20.48**	**7.04**

Table 2.6 Trends of Estimated Total Production of Vegetables, Root , Enset & Permanent Crops : Both Private Peasant & Commercial Farms: 2008/09 - 2010/11 , Meher Season

Sectors	Crop Type	Total Production in Quintals			% change 2010/11 over	
		2008/09	2009/10	2010/11	2008/09	2009/10
Private Peasant Holdings	Vegetables	5,988,570.5	5,573,568.0	6,756,055.8	12.82	21.22
	Root Crops	12,136,043.0	18,063,778.0	19,155,610.1	57.84	6.04
	Enset	5,565,898.5	8,015,531.0	6,948,102.5	24.83	-13.32
	Coffee	1,842,656.6	2,655,269.7	2,717,254.5	47.46	2.33
	Permanent Crops	10,558,658.0	12,285,690.0	19,052,213.8	80.44	55.08
	Sub - Total	**36,091,826.7**	**46,593,836.7**	**54,629,236.6**	**51.36**	**17.25**
Commercial Farms	Vegetables	329,133.0	774,921.3	1,403,234.2	326.34	81.08
	Root Crops	90,520.9	237,975.7	996,331.8	1000.66	318.67
	Enset	700.7	-	990.0	41.28	*
	Coffee	210,683.2	365,949.2	389,860.7	85.05	6.53
	Permanent Crops	43,359,289.8	16,974,283.6	33,677,782.4	-22.33	98.4
	Sub - Total	**43,990,327.7**	**18,353,129.8**	**36,468,199.1**	**-17.1**	**98.7**
Total (All Sectors)	Vegetables	6,317,703.5	6,348,489.3	8,159,290.0	29.15	28.52
	Root Crops	12,226,563.9	18,301,753.7	20,151,941.9	64.82	10.11
	Enset	5,566,599.2	8,015,531.0	6,949,092.5	24.84	-13.3
	Coffee	2,053,339.8	3,021,218.9	3,107,115.2	51.32	2.84
	Permanent Crops	53,917,947.9	29,259,973.6	52,729,996.2	-2.2	80.21
	Grand Total	**80,082,154.4**	**64,946,966.4**	**91,097,435.7**	**13.75**	**40.26**

Table 2.7 Trends of Regional Level Total Estimated Vegetables, Root , Enset & Permanent Crops Cropped Area: Both Private Peasant & Commercial Farms, 2008/09 - 2010/11, Meher Season

Production Year	Crop Types	Total Cropped Area in Hectare						
		TIGRAY	AMHARA	OROMIA	BENISHANG UL-GUMUZ	S.N.N.P.R.	All Other Regions	Country Total
2008/09	Vegetables	3,742.6	45,260.3	62,855.9	1,204.6	51,743.6	854.0	165,661.0
	Root Crops	1,845.9	34,245.1	66,356.9	848.1	42,368.9	960.9	146,625.9
	Enset	-	*	82,216.1	9.1	196,066.1	376.2	278,667.5
	Coffee	19.0	6,316.3	306,224.8	1,031.9	125,155.5	4,221.5	442,968.9
	Permanent Crops	11,824.5	26,962.4	154,215.2	1,224.4	68,981.8	36,995.8	300,204.1
	Sub - Total	17,432.1	112,784.1	671,868.8	4,318.1	484,315.9	43,408.4	1,334,127.4
2009/10	Vegetables	4,139.5	37,739.3	53,345.6	1,871.4	44,054.9	1,575.4	142,726.1
	Root Crops	2,431.6	36,386.9	91,606.5	892.4	80,901.4	1,528.3	213,747.0
	Enset	*	5.8	105,367.8	7.7	289,496.4	754.7	395,632.5

	Coffee	4.2	5,698.0	300,235.8	763.8	139,503.6	5,680.2	451,885.6
	Permanent Crops	9,205.6	27,290.7	149,193.0	1,947.5	74,623.0	35,318.7	297,578.5
	Sub - Total	15,781.0	107,120.7	699,748.6	5,482.8	628,579.4	44,857.4	1,501,569.8
	Vegetables	3,300.4	33,078.7	54,460.5	1,689.2	40,468.7	987.3	133,984.8
	Root Crops	2,806.1	35,258.8	85,532.1	1,275.7	92,032.4	1,860.9	218,766.1
	Enset	-	*	90,862.5	3.6	210,745.2	403.1	302,014.3
	Coffee	*	12,032.2	382,335.4	858.0	173,648.7	4,792.3	573,666.7
	Permanent Crops	2,516.7	31,366.9	206,411.7	1,843.2	90,177.0	46,585.9	378,901.6
2010/11	Sub - Total	8,623.3	111,736.7	819,602.1	5,669.7	607,072.1	54,629.6	1,607,333.5
		% Change of 2010/11 Over 2008/09 Production Year						
	Vegetables	-11.82	-26.91	-13.36	40.23	-21.79	15.61	-19.12
	Root Crops	52.02	2.96	28.9	50.41	117.22	93.67	49.2
% Change 2010/11 over 2008/09	Enset	*	*	10.52	-60.75	7.49	7.14	8.38
	Coffee	*	90.5	24.85	-16.85	38.75	13.52	29.5
	Permanent Crops	-78.72	16.34	33.85	50.54	30.73	25.92	26.21
		% Change of 2010/11 Over 2009/10 Production Year						
	Vegetables	-20.27	-12.35	2.09	-9.74	-8.14	-37.33	-6.12
	Root Crops	15.4	-3.1	-6.63	42.95	13.76	21.77	2.35
% Change 2010/11 over 2009/10	Enset	*	*	-13.77	-53.77	-27.2	-46.59	-23.66
	Coffee	*	111.16	27.35	12.33	24.48	-15.63	26.95
	Permanent Crops	-72.66	14.94	38.35	-5.35	20.84	31.9	27.33

Table 2.8 Trends Regional Level of Estimated Total Production of Vegetables, Root , Enset & Permanent Crops : Both Private Peasant & Commercial Farms : 2008/09 - 2010/11, Meher Season

Production Year	Crop Types	Total Production in Quintals						
		TIGRAY	AMHARA	OROMIA	BENISHANGUL-GUMUZ	S.N.N.P.R.	All Other Regions	Country Total
	Vegetables	178,329.2	887,535.4	2,406,675.8	31,166.7	2,796,422.9	17,573.5	6,317,703.5
	Root Crops	211,368.5	3,112,333.6	5,200,433.2	77,381.9	3,540,805.8	84,240.9	12,226,563.9
	Enset	-	-	1,519,578.7	-	4,040,713.3	6,307.2	5,566,599.2
	Coffee	*	22,672.1	1,644,427.2	3,075.1	372,963.3	10,202.2	2,053,339.8
	Permanent Crops	158,477. 6	316,168.4	45,097,144.6	84,391.1	5,138,294.8	3,123,471.5	53,917,947.9
2008/09	Sub - Total	548,175.3	4,338,709.6	55,868,259.5	196,014.7	15,889,200.0	3,241,795.3	80,082,154.4
	Vegetables	346,548.4	926,722.5	2,276,922.6	48,726.4	2,733,129.0	16,440.3	6,348,489.0
	Root Crops	317,810.4	3,526,922.9	7,332,254.3	74,833.7	6,907,033.9	142,898.5	18,301,753.7
	Enset	-	-	2,021,710.8	-	5,980,855.5	12,964.7	8,015,531.0
	Coffee	8.5	21,826.9	2,110,657.3	2,653.5	864,922.3	21,150.4	3,021,218.9
	Permanent Crops	221,209.0	422,629.5	20,446,733.6	132,317.0	6,254,490.9	1,782,593.6	29,259,973.6
2009/10	Sub - Total	885,576.3	4,898,101.8	34,188,278.6	258,530.7	22,740,431.6	1,976,047.5	64,946,966.4
	Vegetables	266,402.2	977,543.3	3,314,826.2	62,641.8	3,471,615.1	66,261.4	8,159,290.0
	Root Crops	418,753.8	3,569,553.3	7,028,532.4	152,676.2	8,764,605.1	217,821.1	20,151,941.9
	Enset	-	-	1,755,871.0	-	5,186,191.7	7,029.7	6,949,092. 5
	Coffee	-	46,339.2	2,202,252.0	4,118.5	833,513.7	20,891.7	3,107,115.2
	Permanent Crops	114,444.9	722,149.2	36,517,306.0	107,140.5	11,408,644.8	3,860,310.6	52,729,996.2
2010/11	Sub - Total	799,600.9	5,315,585.0	50,818,787.6	326,577.3	29,664,570.5	4,172,314.5	91,097,435.7
		% Change of 2010/11. Over 2008/09 Production Year						
	Vegetables	49.39	10.14	37.73	100.99	24.14	277.05	29.15
	Root Crops	98.12	14.69	35.15	97.3	147.53	158.57	64.82
% Change 2010/11 Over 2008/09	Enset	-	-	15.55	-	28.35	11.45	24.84
	Coffee	-	104.39	33.92	33.93	123.48	104.78	51.32
	Permanent Crops	-27.78	128.41	-19.03	26.96	122.03	23.59	-2.2
		% Change of 2010/11 Over 2009/10 Production Year						
% Change 2010/11	Vegetables	-23.13	5.48	45.58	28.56	27.02	303.04	28.52
	Root Crops	31.76	1.21	-4.14	104.02	26.89	52.43	10.11

Over 2009/10	Enset	-	-	-13.15	-	-13.29	-45.78	-13.3
	Coffee	-	112.3	4.34	55.21	-3.63	-1.22	2.84
	Permanent Crops	-48.26	70.87	78.6	-19.03	82.41	116.56	80.21

3. 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 last three years (i.e. 2008/09 – 2010/11), are presented in brief for private peasant holdings only.

3.1 Chemical Fertilizer Application

During the last three years, the volume of fertilizers applied and the extent of area under fertilizers are increasing in the country. The survey results indicate that the amount of fertilizer applied to area under crops estimated to be more than 5 million quintals for the year 2010/11(2003 E.C.) showing an increase by 23.8 percent as compared to 2009/10(2002 E.C.) which was about 4.2 million quintals. Regarding fertilizer applied area, in 2010/11, 4.8 million hectares of the cultivated land was under chemical fertilizer, while in 2009/10 it was 3.2 million hectares. The finding shows that there is an increase of 50 percent of chemical fertilizer usage. The share of fertilized area to total cultivated land also increases by 36% in 2010/11(2003 E.C.) and it was less than 30% during the previous years.

Table 3.1: Amount of Chemical Fertilizer and Improved Seed Applied and Area Covered by Production Year

Production Year	Chemical Fertilizer		Improved Seed	
	Area (ha)	Quantity (qt)	Area (ha)	Quantity (qt)
2008/09	3,487,721	4,204,601	465,809	219,512
2009/10	3,167,406	4,227,495	364,154	237,751
2010/11	4,835,773	5,200,009	745,924	373,681

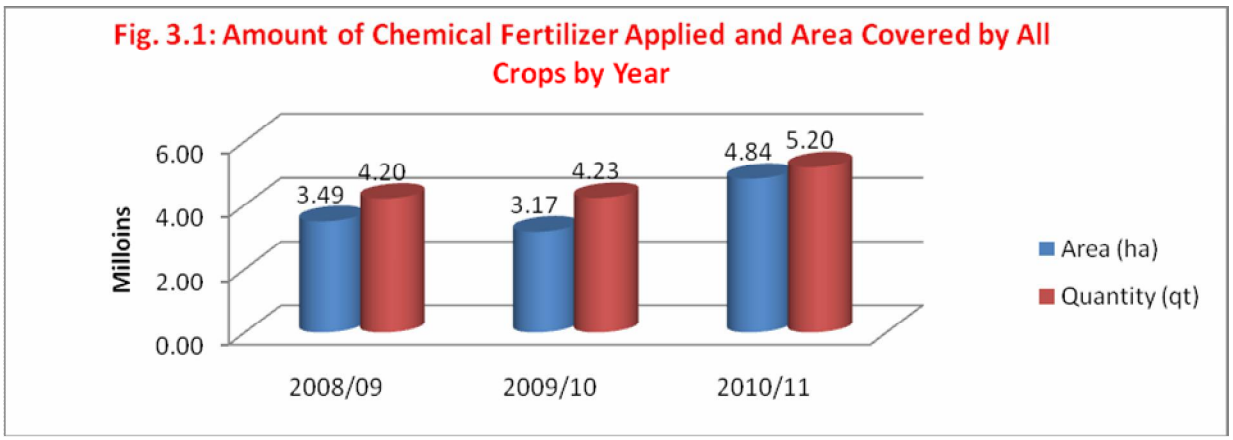


Fig 3.2: Average Proportion of Fertilized Area (2008/09-2010/11)

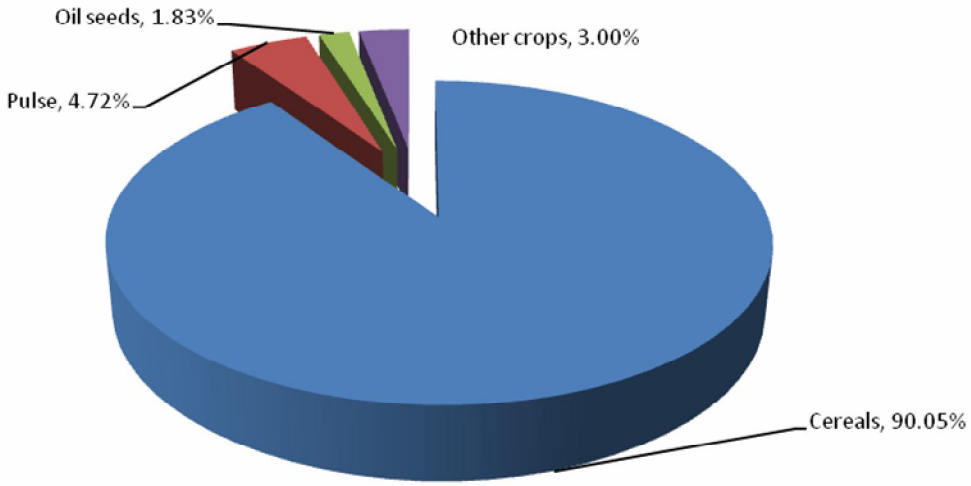


Fig 3.3 : Average Proportion of Fertilized Area Out of Total Cereal Fertilized Area (2008/09-2010/11)

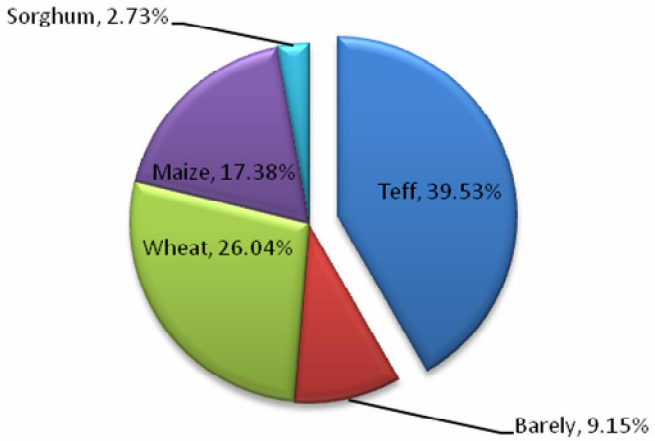
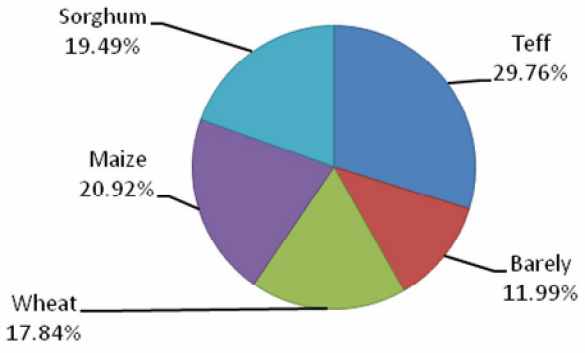
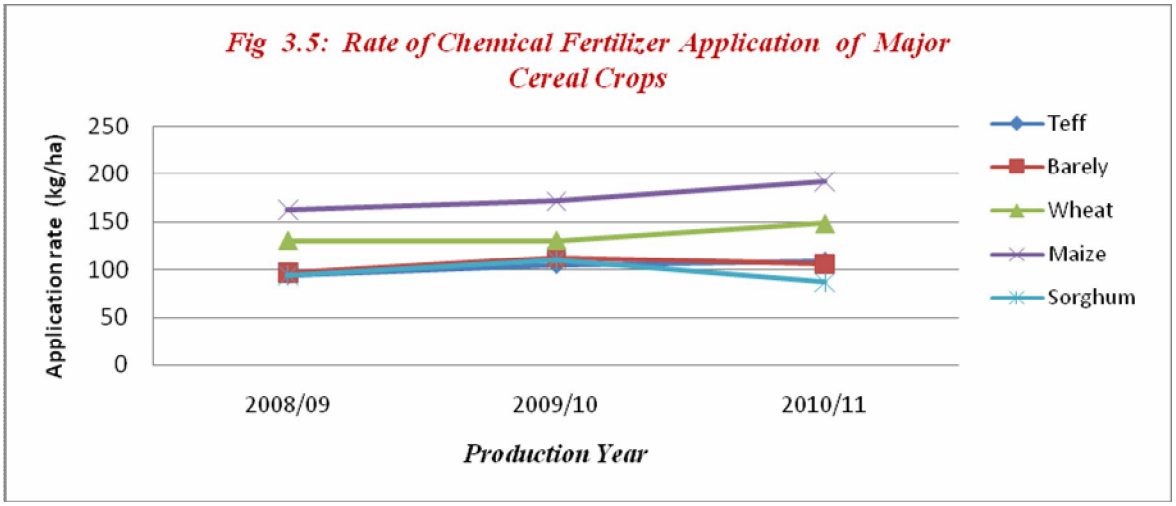


Fig 3.4: Average Proportion of Cropped Area Out of Total Cereal Crops (2008/09-2010/11)

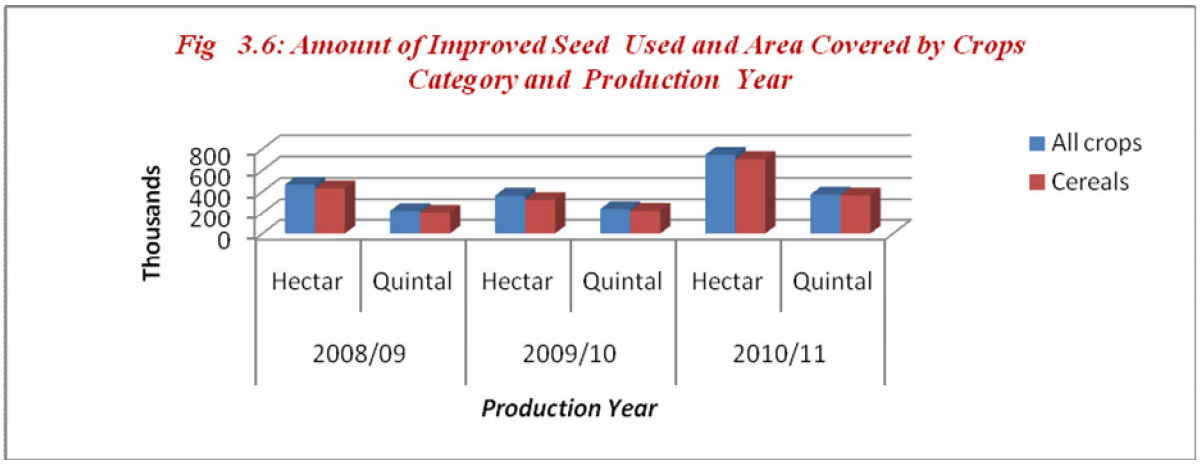


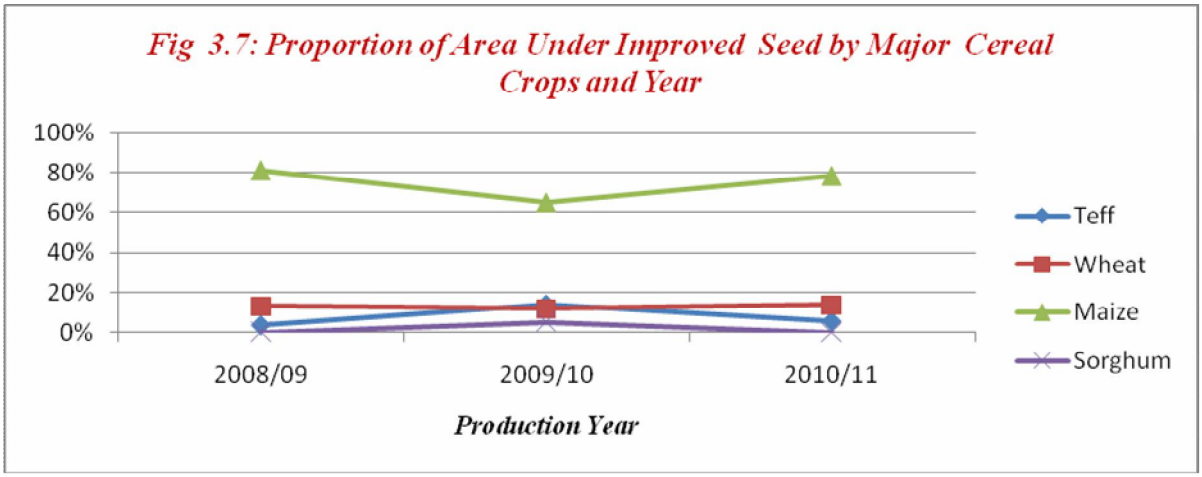


When we look at the application rate of chemical fertilizer, among major cereal crops, a higher application rate was for maize which was 175 kg per hectare, while lower application rate was for sorghum which is 97 kg per hectare.

3.2. Improved Seed

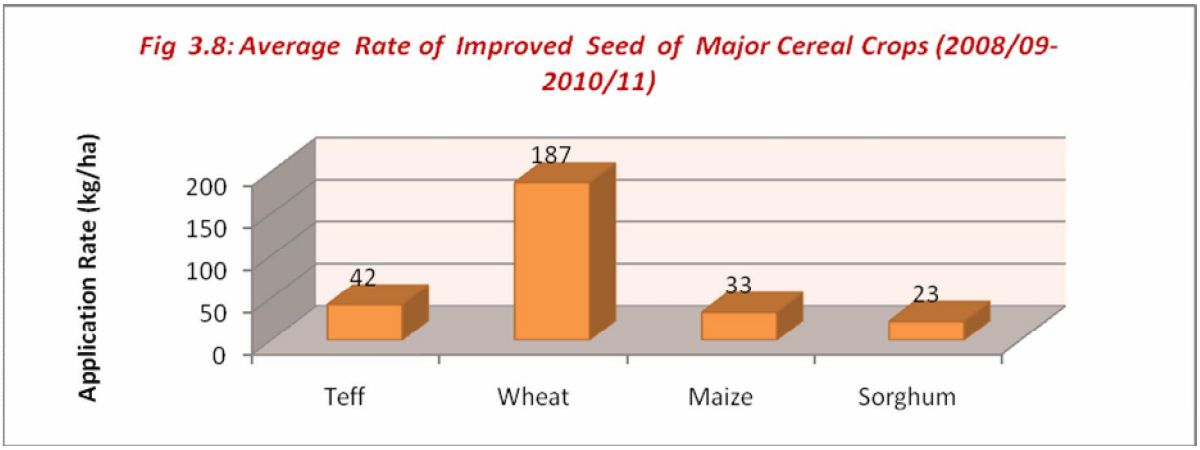
Improved seed is another input that contributes to an increase of agricultural productivity. The amount of improved seed and the extent of area under application is increasing from year to year. However its rate of growth has not been as expected. The use of these improved seeds still remains very low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





As shown in Fig.3.7, from the total area under improved seed allocated to cereals on an average 75% was covered by maize. The share for wheat, Teff and sorghum was 13%, 8% and 2%, respectively. Regarding the application rate of improved seed for these major cereal crops a higher application rate was for wheat, 187 kg per hectare and the lowest

application rate was for sorghum (23 kg/ha). The application rate for Teff and maize was 42 kg and 33 kg per hectare of cultivated land, respectively, as shown in Fig. 3.9.

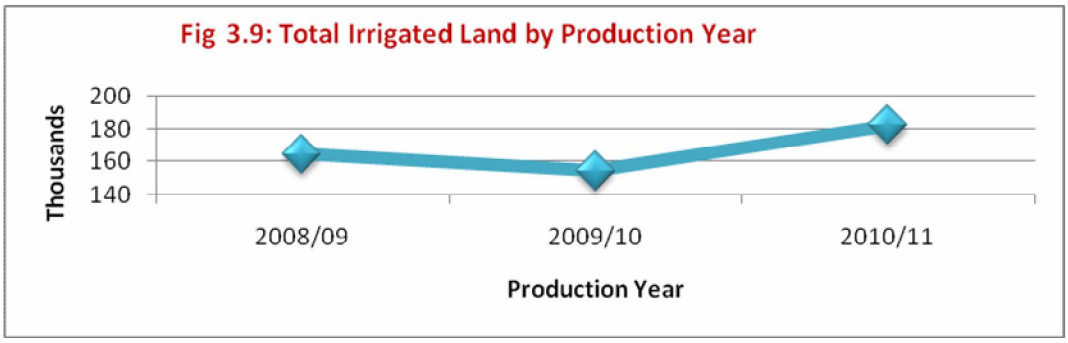


3.3. Irrigated Area

The total irrigated land for the year 2010/11(2003 E.C.) was 182 thousand hectares and there is a small increment when compared to the previous years. On an average only 1.3% of the total cultivated land was under irrigation. Of these irrigated land more than half was covered by cereals.

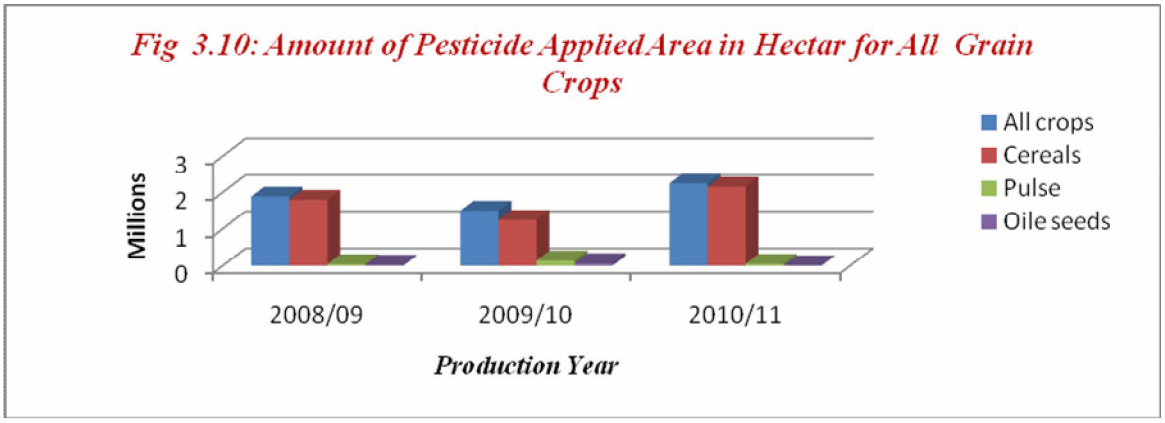
Table 3.2:- Amount of Cultivated Land Area under Irrigation, Pesticides and Extension Program by Production Year

Production Year	Irrigated Land(ha)	Pesticide Area (ha)	Extension (ha)
2008/09	164370	1884009	1496063
2009/10	154424	1493067	1563334
2010/11	182146	2243711	2198324



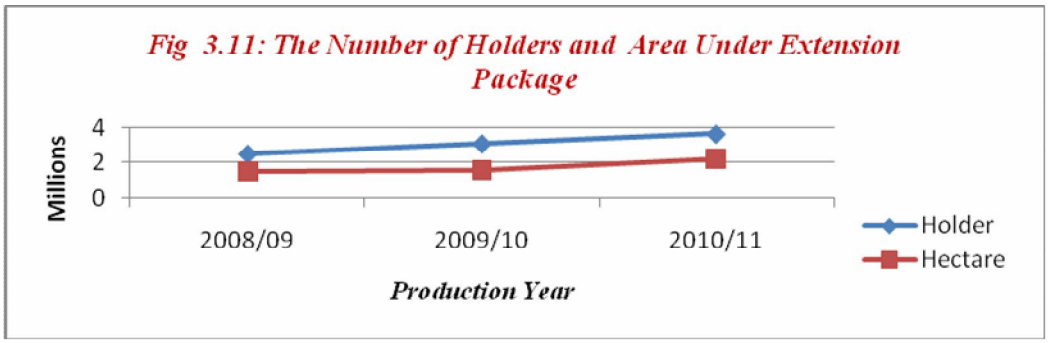
3.4. Pesticide Applied

The total pesticide applied area for the year 2010/11(2003 E.C.) main production season was more than 2.2 million hectares while the figure for 2008/09(2001 E.C.) and 2009/10(2002 E.C.) production years was less than 2 million hectares, respectively.



3.5. Extension Package Program

As the findings of the survey indicate, more than 90% of the cultivated land under cereal crops was covered by extension package program. In 2010/11 main cropping season, the number of holders participating in various crop extension packages was estimated to be more than 3.6 million, as presented in Fig. 3.11.



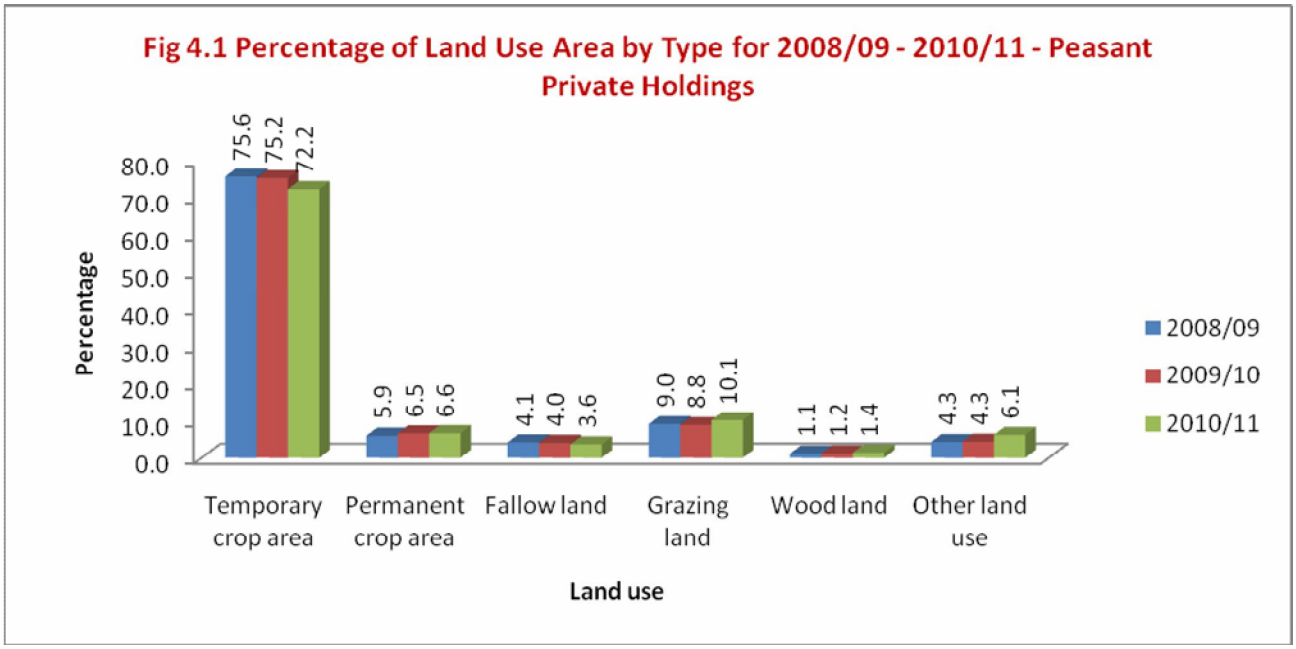
4. LAND UTILIZATION

Food security is the major issue for policy makers in Ethiopia. This summary contains the last three years land use and average holding size per households and per holders in the small holder agriculture in the country. The survey results, shown in Table 4.1, the total land area under different types of land uses in the last three years have witnessed an increase in area devoted to all types of land uses. For instance, the land area used for temporary crops cultivation has shown an increase by about 6 percent. The data also shows a considerable increase in woodland area by 36.7 percent.

Table 4.1: Total Land Use Area Disaggregated by Land Use Types for Private Peasant Holding (2008/09-2010/11 Meher Season)

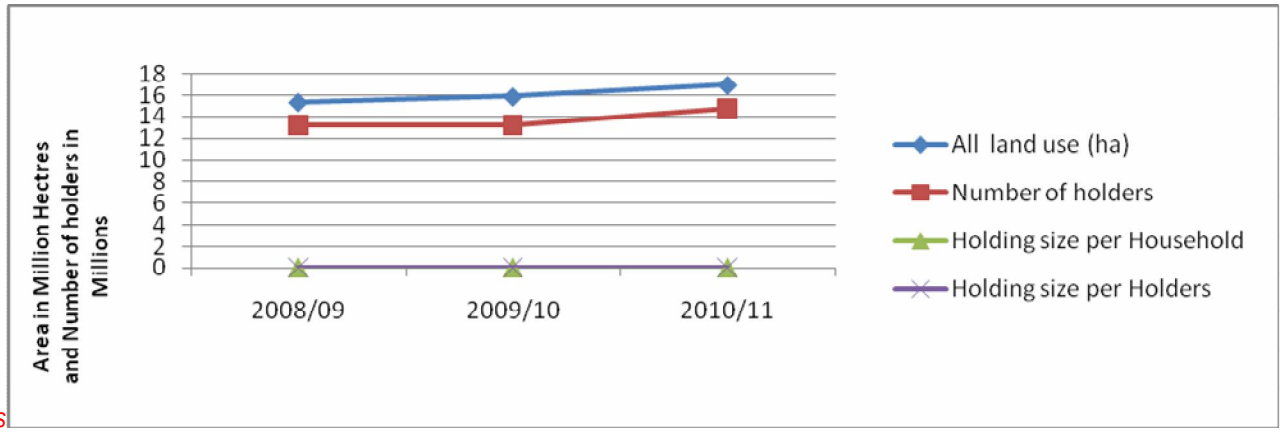
Land Use Types	2008/09 (in hectares)	2009/10 (in hectares)	2010/11 (in hectares)
Temporary crop area	11,587,470	11,917,078	12,241,268
Permanent crop area	906,518	1,036,558	1,117,613
Fallow land	635,433	635,212	615,139
Grazing land	1,383,839	1,396,048	1,708,624
Wood land	169,675	186,243	231,965
Other land use	651,802	684,766	1,041,087
All land use	15,334,737	15,855,904	16,955,697

The figure 4.1 gives a picture of how the total land area and its components are changing over time for the stated period. It shows that there has been a change with respect to the share of land area allocated to each type of land uses. The percentage share of land area for temporary crops decreased from 75.6% in 2008/09 to 72.2% in 2010/11. Whereas, the percentage share of land area for permanent crops and grazing land increased by about 1%, in 2008/09 to 2010/11 and that of other land use increased by 1.8%.



With regard to total land area, there is an increase from 15 million hectares to about 17 million hectares (13.3 percent increase) .On the other hand, the number of agricultural holders has increased from 13 million to nearly 15 million (15.3 percent increase). And hence, the average holding size per household and the average holding size per holder remains nearly constant (1.2 ha/holder).

Fig. 4.2 Total Land Area, Number and Average Holding Size for Private Peasant Holdings



5. 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.

Table 5.1 World ***top 15 countries on highest number of cattle***

1. *Brazil*	4. USA	7. *Ethiopia*	10. *Russia*	13. Pakistan

2. *India*	5. *Argentina*	8. Mexico	11. *Colombia*	14. France
3. *China*	6. *Sudan*	9. Australia	12. *Bangladesh*	15. *Tanzania*

Source: FAO, Global Livestock Production and Health Atlas, 2003.

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

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.

The figure indicated below reveals that the estimated number of total cattle, sheep and goats at the country level which includes local, hybrid and exotic in the rural sedentary areas of the country.

Table 5.2: Estimated Number of Cattle, Sheep and Goat by Year

Year	cattle	sheep	goats
2008/09	***49,297,898***	***25,017,218***	***21,884,222***
2009/10	***50,884,005***	***25,979,919***	***21,960,706***
2010/11	*53,382,194*	*25,509,004*	*22,786,946*

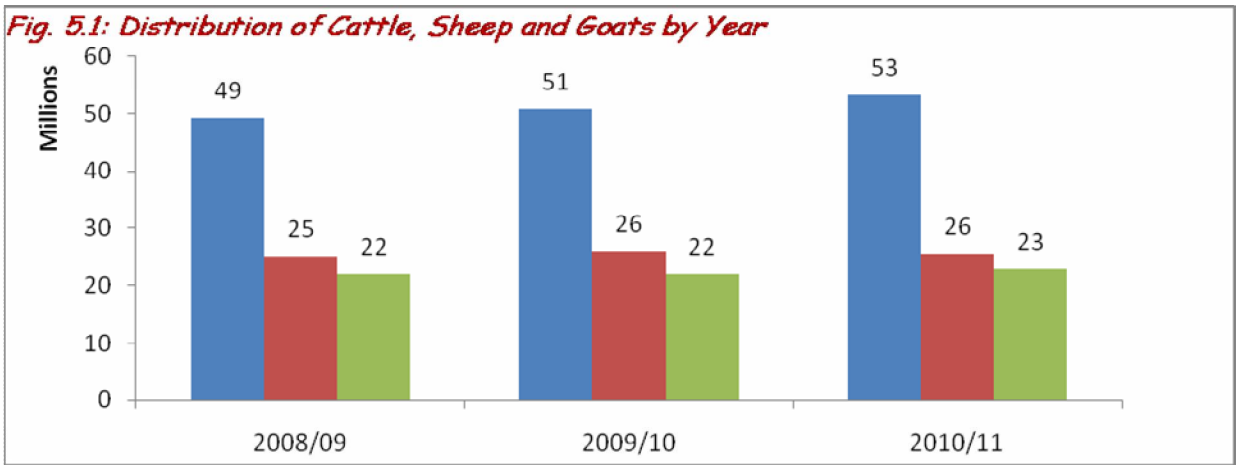
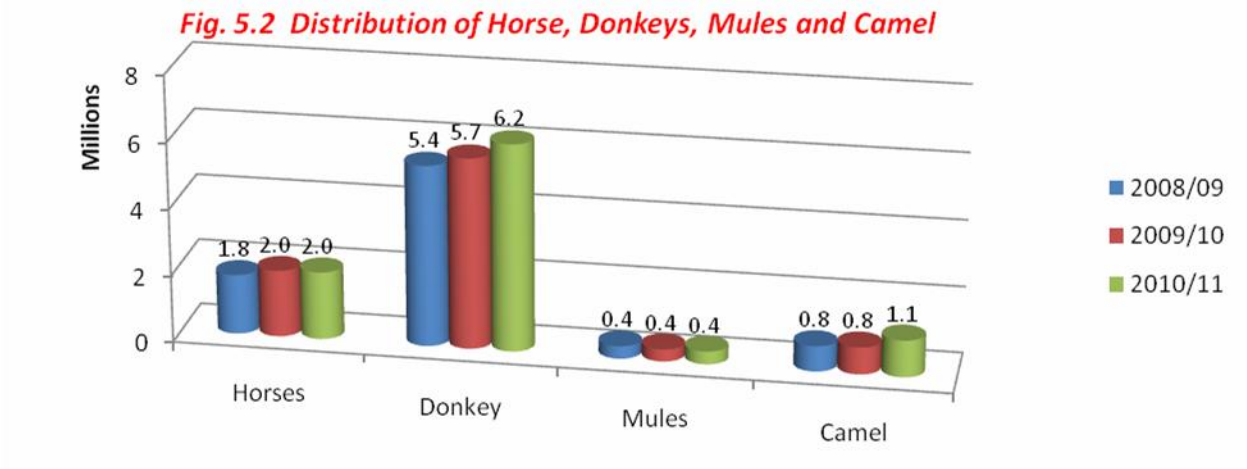


Table 5.3 shows that the estimate of horses, donkeys, mules, and camels for the rural sedentary areas of the country for the last three years for private holdings.

Table 5.3: Estimated Number of Horses, Donkeys, Mules and Camels by Year

Year	Horses	Donkey	Mules	Camel
2008/09	*1,787,211*	*5,421,895*	*373,519*	*759,696*
2009/10	*1,995,306*	*5,715,129*	*365,584*	*807,581*
2010/11	*2,028,233*	*6,209,665*	*385,374*	*1,102,119*



Milk Production

Estimation of milk production entails three components, namely number of milking cows, number of months milking cows actually milked within the reference period and average milk production per cow per day.

"Gross production", which includes whole fresh milk actually milked and milk sucked by young animals and also milk fed to other animals. "Net production" consists of whole milk actually milked and milk fed to other animals but excludes milk sucked by young animals.

The estimated amount of milk produced (cow and camel) in Figure 5.3 shows that the amount consumed by households as a food, converted in to cheese and butter for domestic purposes. The data shown in Table 5.4 was collected from the livestock holders within sampled households that owned livestock.

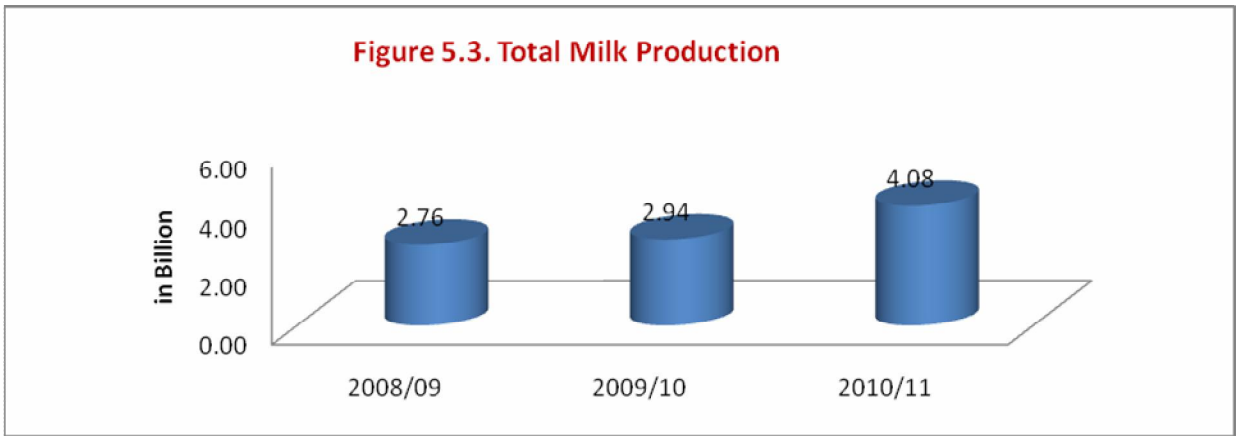


Table 5.4 Quantity of Milk, and Egg Production

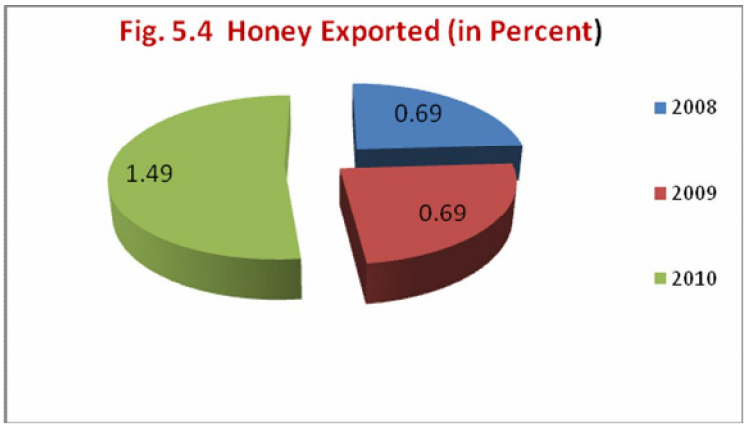
Year	Cow Milk	Camel Milk	Egg
2008/09	2,714,797,144	162,134,805	79,088,726
20109/10	2,940,216,526	150,315,343	82,234,728
2010/11	4,057,998,244	26,2821,534	98,301,052

On the average milk production per cattle were found to be about 337, 262, and 243 liters per year for the years 2009 to 2011, respectively.

Table 5.5 shows that the amount of honey produced annually and on the average the quantity exported which is less than one percent of total production.

Table 5.5: Honey Production and Exported Amount

Year	Honey Production (in kg)	Export Net Weight (in kg)	Value (in Birr)	Percent Exported
2008/09	42,180,346	289,551	6,964,443	0.69
2009/10	39,660,647	275,277	10,486,521	0.69
2010/11	41,524,967	620,101	30,846,632	1.49



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

References

1. *Annual Agricultural Sample Survey Reports from 2008/0 9 - 2010/11, CSA of Ethiopia*
2. *FAO, Global Livestock Production and Health Atlas, 2003*