

## **CHAPTER VII**

### **SIZE, CHARACTERISTICS AND PURPOSE OF LIVESTOCK AND USE OF LIVESTOCK PRODUCTS**

#### **1. INTRODUCTION**

Ethiopia is one of the most populous countries in Africa, having an estimated population of about 67.2 million in July 2002 with annual growth rate of 2.9%. This growing population demands much better economic performance than in the past, at least to ensure food security and other basic needs. The dominant economic feature of the country is the agriculture sector of which livestock is a very important and essential component. The highlanders raise livestock together with crop cultivation for their livelihood whereas the lowlanders or the ‘pastoralists’ subsistence is based mainly on livestock and livestock products. Consequently, the government should give due attention to this sector in order to take advantage of its contribution to the economic growth and as a result to meet the needs of the expanding population.

The livestock sector has been contributing significant portion to the economy of Ethiopia, but still has great potential to assist the economic development of this country. It is well known that livestock products and byproducts in the form of meat, milk, honey, eggs, cheese, and butter supply the needed animal protein that contribute to the improvement of the nutritional status of the people. Livestock also plays an important role in providing export commodities, such as live animals, hides and skins to earn foreign exchanges to the country. On the other hand, draught animals provide power for the cultivation of the small holdings and for crop threshing virtually all over the country and are also essential modes of transport to take holders and their families long-distances, to convey their agricultural products to the market places and bring back their

domestic necessities. Livestock as well confer a certain degree of security in times of crop failure, as they are a “near-cash” capital stock. Furthermore, livestock provides farmyard manure that is commonly applied to improve soil fertility and also used as a source of energy.

By virtue of the important role that the livestock sector plays in the economy of the country, formulation of development plan regarding the sector is vital. It is therefore imperative that livestock development plans should be formulated on the basis of reliable statistical data, and hence, timely and accurate livestock data are required for the formulation, implementation, monitoring, and evaluation of development plan and program in the sector. These livestock data can be generated more often than not using surveys and censuses. The Central Statistical Authority (CSA) has been generating livestock data through sample surveys since 1981 (1973 E.C.). However, based on the results of these surveys, CSA was not able to satisfy the growing demand of the data users regarding the sector. Realizing this fact, CSA proposed and conducted the first agricultural census in the year 2001/02.

As mentioned earlier in Chapter II, agricultural censuses are classified into two categories: censuses conducted by complete enumeration or conducted by sample enumeration. In agricultural censuses conducted by complete enumeration, data are collected from all holders and the result for each variable is obtained by totaling the values of the respective variable from all holders. On the other hand, agricultural censuses conducted based on sample enumeration are probability sample surveys for which a sample is selected and the method of estimation for each census variable permits establishing its statistical precision. Therefore, conducting complete enumeration is more expensive, time consuming and requires large number of personnel. Likewise, quantity of data to be processed is very large (FAO, 1996). By considering these realities and the economic condition of the country, the sample enumeration was favored.

The livestock census was carried-out as part of the agricultural census. The general objective of the livestock census is to establish benchmark data that could be used for development planning and policy formulation regarding the sector, and the specific objectives are to purvey quantitative information on the size and characteristics of the livestock in rural and urban areas at wereda level, and to provide estimates on size and characteristics of livestock for pastoral areas and commercial farms. In order to meet these objectives, data on: livestock number by type, age, sex, purpose and breed; livestock products particularly milk, egg, and honey; livestock diseases and vaccination; livestock product utilization; and animal feed were collected from sampled agricultural households in rural and urban areas as well as from all commercial farms. In addition, these same data will be collected from pastoral areas in the near future.

The expected users of these data are government organizations involved in planning purposes, individuals or firms raising livestock, non-governmental organizations that provide technical and financial assistance, international organizations which are interested in livestock, and research organizations.

In this chapter of the report: estimates of livestock that include cattle, sheep, goats, draught animals (horses, mules, asses and camels), poultry and bees were made based on the information obtained from the holders within the selected agricultural households both in rural and urban areas as to the reference date (February 8,2002) and reference period (February 9,2001 to February 8, 2002). Thus, the results obtained from the livestock census for the rural and urban areas of the region as well as brief discussions made on the results are presented in this chapter. Also the census results at Administration level are provided in Statistical Tables 7.1- 7.36. Moreover, the estimates, Standard errors and coefficients of variation are given in Annex Tables 7.1 – 7.10 for some relevant variables.

## **2. LIVESTOCK NUMBER BY BREED, AGE, SEX AND PURPOSE**

The livestock census is the first of its kind in the nation to supply data on the size and characteristics of livestock for rural and urban areas and commercial farms at wereda level, and also for pastoral areas though the census not yet conducted. The livestock census that was carried-out in Dire Dawa administration was part of the national census and covered both rural and urban areas of the region on sample basis. Commercial farms that are found in the region were also covered on complete enumeration basis though the results are not presented here.

The total number of each type of livestock as well as the numbers disaggregated by breed, age, sex, and purpose possessed by holders on the reference date (February 8, 2002), irrespective of ownership, were recorded by interviewing each holder in the sampled agricultural households both in rural and urban areas of the region. The numbers also include the livestock belonging to the holding but temporarily away or in transit at the time of the enumeration.

### **2.1 Cattle**

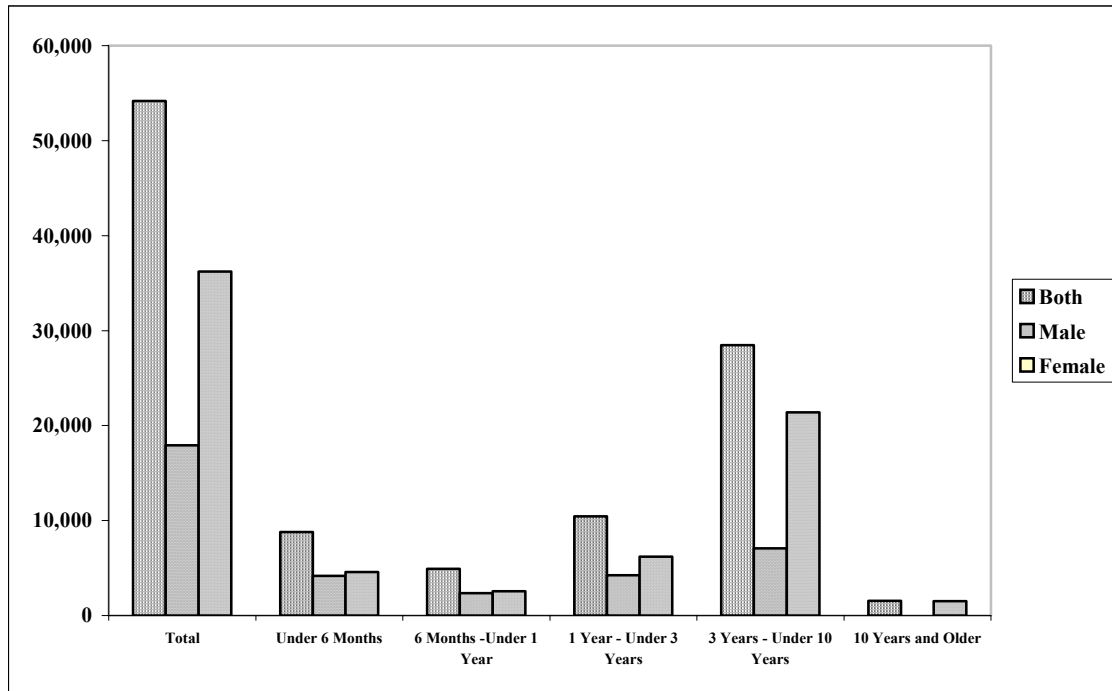
The estimates of cattle for rural and urban areas in Dire Dawa administration are presented in Summary Table VII.1. As shown on the table, the total cattle population for the region is estimated to be 54,155. Out of this total cattle population, the female cattle constitute about 66.9 percent (36,228) and the remaining 33.1 percent (17,927) are male cattle. The majority (93.64 percent) of the cattle population is found in rural areas, while small proportion is accounted for urban areas (6.36 percent).

Regarding age groups, the majority of the cattle population (that is about 52.56 percent) is in the 3 years and under 10 years age category, with about 13.08 percent male and about 39.48 percent female. Moreover, about 44.6 percent are under three years and

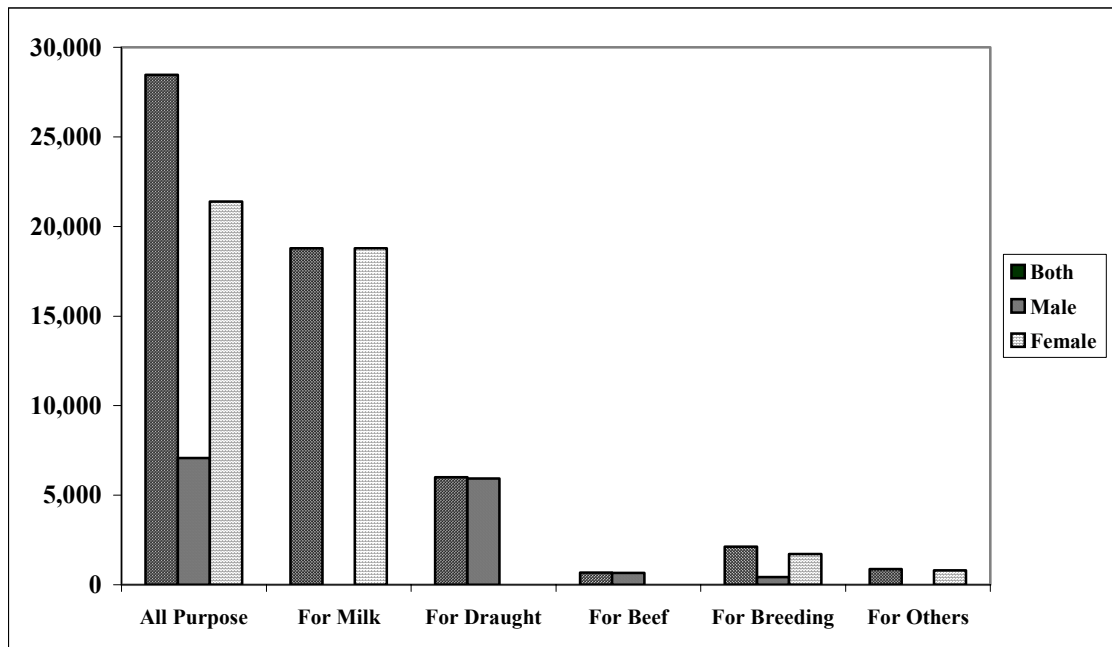
**SUMMARY TABLE VII.1: Estimated Number of Cattle by Sex, Age, Breed, and Purpose for Rural and Urban Holdings**

Age,Breed,and Purpose	Cattle on Both Rural and Urban Holdings						Cattle on Rural Holdings						Cattle on Urban Holdings					
	Total		Male		Female		Total		Male		Female		Total		Male		Female	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Total.....	54,155	100	17,927	33.10	36,228	66.90	50,712	93.64	17,031	31.45	33,681	62.19	3,443	6.36	896	1.65	2,547	4.70
Under 6 months	8,785	16.22	4,191	7.74	4,595	8.48	8,143	15.04	3,904	7.21	4,239	7.83	642	1.19	287	0.53	355	0.66
6 months-under 1 year	4,927	9.10	2,364	4.37	2,563	4.73	4,552	8.41	2,214	4.09	2,338	4.32	375	0.69	150	0.28	225	0.42
1 year-under 3 years ...	10,441	19.28	4,257	7.86	6,185	11.42	9,788	18.07	4,021	7.42	5,767	10.65	653	1.21	235	0.43	418	0.77
3 years-under 10 years	28,464	52.56	7,083	13.08	21,381	39.48	26,802	49.49	6,868	12.68	19,934	36.81	1,662	3.07	215	0.40	1,447	2.67
10 years and older ...	1,539	2.84	*	*	1,505	2.78	1,428	2.64	*	*	1,403	2.59	111	0.20	*	*	103	0.19
Cattle by Breed																		
Total .....	54,155	100	17,927	33.10	36,228	66.90	50,712	93.64	17,031	31.45	33,681	62.19	3,443	6.36	896	1.65	2,547	4.70
Indigenous .....	53,762	99.27	17,873	33.00	35,890	66.27	50,499	93.25	17,015	31.42	33,484	61.83	3,264	6.03	858	1.58	2,406	4.44
Hybrid .....	240	0.44	*	*	196	0.36	*	*	*	*	*	*	*	*	*	*	*	*
Exotic .....	153	0.28	*	*	143	0.26	*	*	-	-	*	*	88	0.16	*	*	78	0.14
Aged 3-10 Years by Purpose																		
Total .....	28,464	100	7,083	24.88	21,381	75.12	26,802	94.16	6,868	24.13	19,934	70.03	1,662	5.84	215	0.76	1,447	5.08
Used for Milk .	18,774	65.96			18,774	65.96	17,623	61.91			17,623	61.91	1,150	4.04			1,150	4.04
Used for Draught	6,012	21.12	5,940	20.87	*	*	5,908	20.76	5,843	20.53	*	*	103	0.36	97	0.34	*	*
Used for Beef	671	2.36	655	2.30	*	*	623	2.19	606	2.13	*	*	48	0.17	48	0.17	-	-
Used for Breeding	2,134	7.50	423	1.49	1,711	6.01	1,821	6.40	361	1.27	1,460	5.13	313	1.10	62	0.00	251	0.88
Used for Other	874	3.07	*	*	809	2.84	827	2.91	*	*	770	2.71	*	*	*	*	*	*
Dairy Animals																		
Dairy Cows....	18,774	100			18,774	100	17,623	93.87			17,623	93.87	1,150	6.53			1,150	6.53
Milking Cows.	14,737	100			14,737	100	13,849	93.97			13,849	93.97	888	6.41			888	6.41

**FIGURE VII.1 DISTRIBUTION OF CATTLE BY AGE AND SEX**



**FIGURE VII.2 DISTRIBUTION OF CATTLE AGED 3 AND UNDER 10 YEARS BY PURPOSE AND SEX**



small portion, which is 2.84 percent, is in 10 years and older category. ( see Tab. VII.1). On the other hand, according to the results obtained, a small amount of hybrid breeds, 0.44 percent and exotic breeds 0.28 percent are reported.

The distribution of cattle by purpose is indicated in the same table. Among cattle aged three years and under ten years, those used for draught purposes accounted for 21.12 percent and the percentage share of beef cattle is the lowest that is about 2.36 percent. Beef cattle here refer to all cattle reared exclusively for meat that is used either for home consumption or for sale. Further, the number of dairy-cows<sup>1</sup> is estimated to be about 18,774 and milking-cows<sup>2</sup> are about 14,737. (See Fig. VII.2).

## **2.2 Sheep and Goats**

The estimated numbers and percentage distributions of sheep and goats for rural and urban areas are given in Summary Table VII.2. As pointed out in this table, about 34,015 sheep are estimated to be found in the region, out of which about 67.51 percent are females, and about 32.49 percent are males. Moreover, according to the census result, large number of goats is reported in the region, and it is estimated to be about 91,007. Out of these total goats, 73.16 percent are females and 26.84 percent are males. (See Tab. VII.2).

Among these totals reported in the region, 85.11 percent of the sheep and 92.87 percent of the goats are found in the rural areas. Urban areas accounted for only 14.89 percent and 7.13 percent of the sheep and goats, respectively.

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<sup>1</sup> A Dairy Cow refers to any type of cow that primarily kept for milk and has milked previously and/or milking at the time of enumeration or has never been milked before but expected to be milked in the future or pregnant at the time of enumeration.

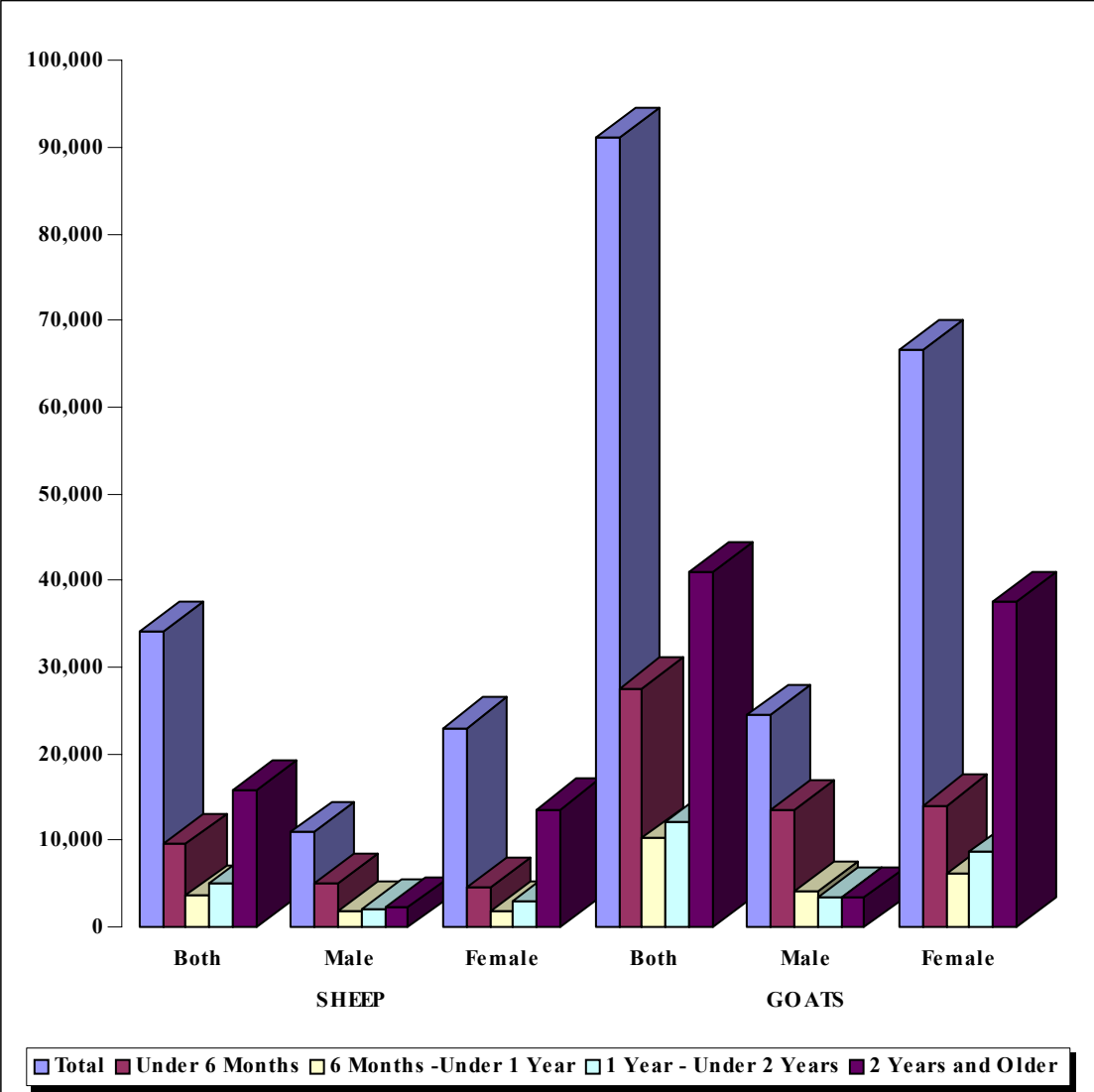
<sup>2</sup> A Milking Cow refers to any type of cow that actually milked during the reference period (February 9, 2001 to February 8, 2002).

SUMMARY TABLE VII.2: Estimated Number of Sheep and Goats by Sex, Age, Breed, and Purpose for Rural and Urban Holdings

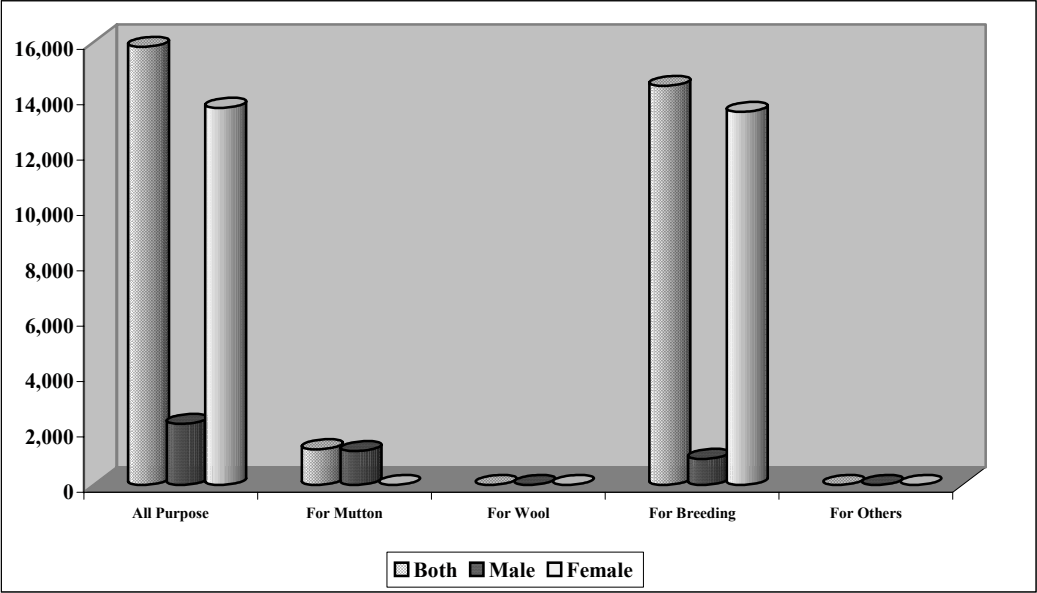
Age,Breed,and Purpose	Both Rural and Urban Holdings						Rural Holdings						Urban Holdings					
	Total		Male		Female		Total		Male		Female		Total		Male		Female	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Total Sheep.....	34,015	100	11,052	32.49	22,963	67.51	28,950	85.11	9,289	27.31	19,661	57.80	5,065	14.89	1,763	5.18	3,302	9.71
Under 6 months.....	9,524	28.00	5,003	14.71	4,521	13.29	8,069	23.72	4,186	12.31	3,882	11.41	1,456	4.28	817	2.40	639	1.88
6 months-under 1 year .....	3,621	10.65	1,846	5.43	1,775	5.22	2,846	8.37	1,502	4.42	1,344	3.95	775	2.28	343	1.01	431	1.27
1 year-under 2 years .....	5,049	14.84	1,998	5.87	3,051	8.97	4,336	12.75	1,745	5.13	2,591	7.62	713	2.10	253	0.74	460	1.35
2 years and older .....	15,820	46.51	2,204	6.48	13,616	40.03	13,699	40.27	1855	5.45	11,844	34.82	2,121	6.24	349	1.03	1,772	5.21
Sheep by Breed																		
Total .....	34,015	100	11,052	32.49	22,963	67.51	28,950	85.11	9,289	27.31	19,661	57.80	5,065	14.89	1,763	5.18	3,302	9.71
Indigenous .....	33,879	99.60	10,970	32.25	22,909	67.35	28,828	84.75	9,216	27.09	19,612	57.66	5,052	14.85	1,755	5.16	3,297	9.69
Hybrid .....	*	*	*	*	*	*	*	*	*	*	*	*	*	*	-	-	*	*
Exotic .....	*	*	*	*	-	-	-	-	-	-	-	-	*	*	*	*	-	-
Sheep Aged 2 Years and Older by Purpose																		
Total .....	15,820	100	2,204	13.93	13,616	86.07	13,699	86.59	1,855	11.73	11,844	74.87	2,121	13.41	349	2.21	1,772	11.20
Used for Mutton .....	1288	8.14	1,220	7.71	*	*	1,047	6.62	985	6.23	*	*	241	1.52	235	1.49	*	*
Used for Wool .....	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Used for Breeding .....	14,410	91.09	940	5.94	13,470	85.15	12,566	79.43	833	5.27	11,734	74.17	1,844	11.66	107	0.68	1,737	10.98
Used for Other .....	*	*	*	*	*	*	-	-	-	-	-	-	*	*	*	*	*	*
Total Goats .....	91,007	100.00	24,425	26.84	66,582	73.16	84,517	92.87	22,544	24.77	61,973	68.10	6,490	7.13	1,881	2.07	4,609	5.06
Under 6 months .....	27,575	30.30	13,494	14.83	14,081	15.47	25,551	28.08	12,427	13.65	13,124	14.42	2,024	2.22	1,067	1.17	957	1.05
6 months-under 1 year .....	10,317	11.34	4,145	4.55	6,172	6.78	9,463	10.40	3,792	4.17	5,671	6.23	854	0.94	353	0.39	501	0.55
1 year-under 2 years .....	12,161	13.36	3,420	3.76	8,741	9.60	11,229	12.34	3,175	3.49	8,054	8.85	932	1.02	245	0.27	687	0.75
2 years and older .....	40,954	45.00	3,367	3.70	37,588	41.30	38,273	42.06	3,150	3.46	35,123	38.59	2,681	2.95	216	0.24	2,465	2.71
Goats by Breed																		
Total .....	91,007	100	24,425	26.84	66,582	73.18	84,517	92.89	22,544	24.78	61,973	68.11	6,490	7.13	1,881	2.07	4,609	5.07
Indigenous .....	90,986	99.98	24,418	26.84	66,567	73.16	84,517	92.89	22,544	24.78	61,973	68.11	6,469	7.11	1,874	2.06	4,595	5.05
Hybrid .....	*	*	*	*	*	*	-	-	-	-	-	-	*	*	*	*	*	*
Exotic .....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Goats Aged 2 Years and Older by Purpose																		
Total .....	40,954	100	3,367	8.22	37,588	91.78	38,273	93.45	3150	7.69	35,123	85.76	2,681	6.55	216	0.53	2,465	6.02
Used for Milk .....	1,694	4.14			1,694	4.14	1,413	3.45			1,413	3.45	281	0.69			281	0.69
Used for Meat .....	1,646	4.02	1,494	3.65	152	0.37	1,483	3.62	1386	3.38	*	*	163	0.40	108	0.26	*	*
Used for Breeding .....	37,552	91.69	1,871	4.57	35,682	87.13	35,317	86.24	1764	4.31	33,553	81.93	2,235	5.46	107	0.26	2,129	5.20
Used for Other .....	*	*	*	*	*	*	*	*	-	-	*	*	*	*	*	*	-	-



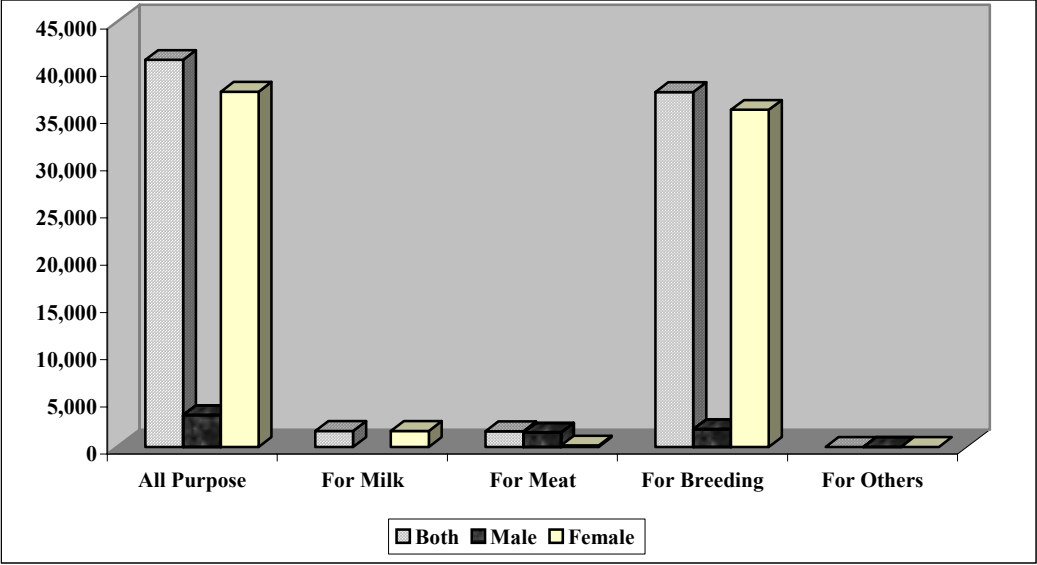
**FIGURE VII.3 DISTRIBUTION OF SHEEP AND GOATS BY AGE AND SEX**



**FIGURE VII.4 DISTRIBUTION OF SHEEP BY PURPOSE AND SEX AGED 2 AND OLDER**



**FIGURE VII.5 DISTRIBUTION OF GOATS BY PURPOSE AND SEX AGED 2 AND OLDER**



Pertaining to the age distribution of both the sheep and the goats, the largest portions are in the age group of two years and older (46.51 percent and 45 percent, in that order), followed by the young stock under six months for both sheep and goats, that is 28 percent and 30.30 percent, respectively. (See Figure VII.3)

With respect to breed, almost all the sheep and the goats are indigenous (99.6 percent and 99.98 percent in that order). The number of hybrid and exotic sheep and goats reported are insignificant.

Summary Table VII.2 also discloses the numbers and percentages of sheep and goats raised for different purposes in the region. The percentages of both sheep and goats kept for mutton and meat are higher for males. Moreover, the data reveals that female sheep and female goats are primarily kept for breeding purposes. Among the sheep flock two years and older, 14,410 (91.09 percent) are kept for breeding; about 8.14 percent for mutton and an insignificant number of sheep were kept for wool production. Likewise, amid the goats population aged two years and older, goats kept for breeding accounts for about 91.69 percent (37,552) while goats kept for meat accounts for about 4.02 percent only ( See Figure VII.4 and VII.5).

## **2.3 Horses, Asses, Mules and Camels**

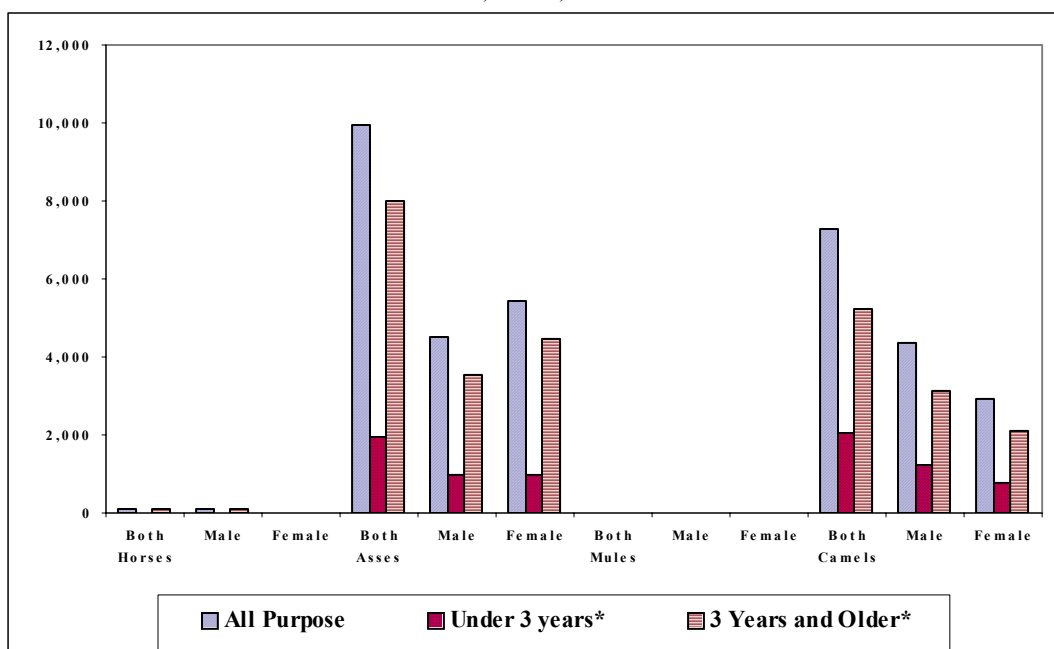
Summary Table VII.3 shows the estimates of horses, asses, mules and camels for the rural and urban areas of the region for private holdings. According to the census result, there are 127 horses, 9,934 asses, and 7,260 camels in Dire Dawa administration. The table as well shows that high proportions of asses and camels are found in the rural areas..

As indicated in the same table, asses are the overwhelming majority in the region compared to the other draught animals. Out of the total asses population in the region,

**SUMMARY TABLE VII.3: Estimated Number of Horses, Asses, Mules and Camels by Sex, Age, Breed, and Purpose for Rural and Urban Holdings**

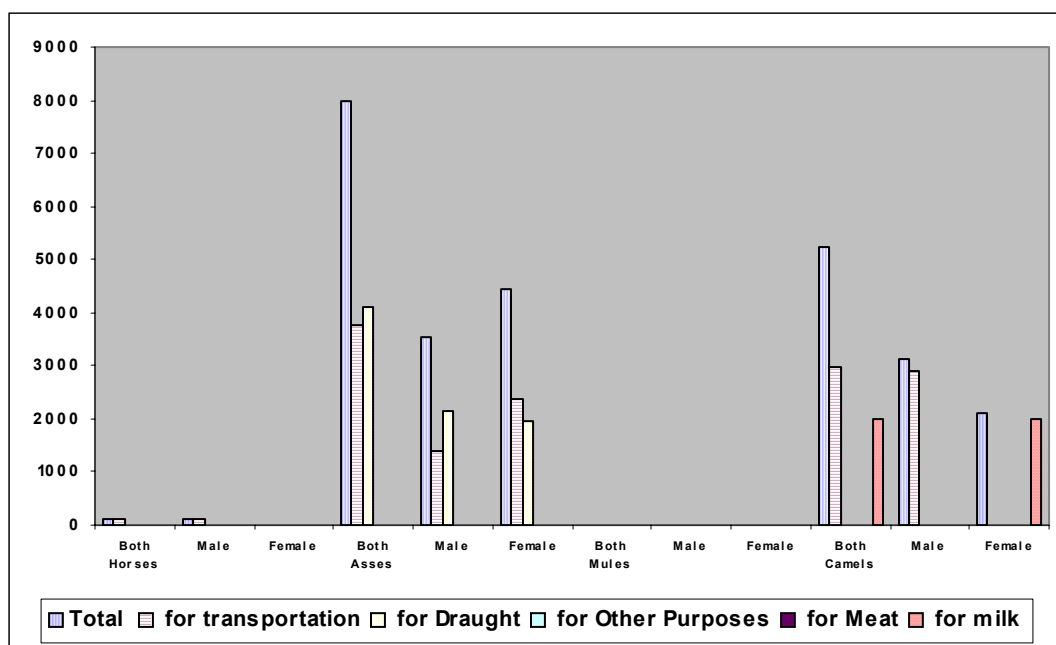
Age,Breed,and Purpose	Both Rural and Urban Holdings						Rural Holdings						Urban Holdings					
	Total		Male		Female		Total		Male		Female		Total		Male		Female	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
<b>Total Horses.....</b>	127	100	127	100	-	-	-	-	-	-	-	-	127	100	127	100	-	-
Under 3 Years	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 years and older.....	127	100	127	100	-	-	-	-	-	-	-	-	127	100	127	100	-	-
Horses Aged 3 years and Older by Purpose																		
All Uses .....	127	100	127	100	-	-	-	-	-	-	-	-	127	100	127	100	-	-
Transportation .....	125	98.43	125	98.43	-	-	-	-	-	-	-	-	125	98.43	125	98.43	-	-
Draught .....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Uses .....	*	*	*	*	-	-	-	-	-	-	-	-	*	*	*	*	-	-
<b>Total Asses .....</b>	9,934	100	4,513	45.43	5,422	54.58	9,600	96.64	4,303	43.32	5,297	53.32	335	3.37	210	2.11	125	1.26
Under 3 Years .....	1941	19.54	969	9.75	972	9.78	1880	18.92	933	9.39	946	9.52	61	0.61	36	*	25	0.25
3 years and older .....	7,994	80.47	3,544	35.68	4,450	44.80	7,720	77.71	3,369	33.91	4,350	43.79	274	2.76	174	1.75	99	1.00
Asses Aged 3 Years and older By Purpose																		
All Uses.....	7,994	100	3,544	44.33	4,450	55.67	7,720	96.57	3,369	42.14	4,350	54.42	274	3.43	174	2.18	99	1.24
Transportation .....	3,774	47.21	1,393	17.43	2,381	29.78	2,572	32.17	1,265	15.82	2,307	28.86	202	2.53	128	1.60	74	0.93
Draught .....	4,110	51.41	2,147	26.86	1,963	24.56	4,048	50.64	2,105	26.33	1,944	24.32	62	0.78	42	0.53	*	*
Other Uses .....	*	*	*	*	*	*	*	*	-	-	*	*	*	*	*	*	*	-
<b>Total Mules .....</b>	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	-	-
Under 3 Years ....	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	-	-
3 Years and older ...	*	*	*	*	*	*	*	*	-	-	*	*	*	*	*	*	-	-
Mules Aged 3 Years and Older by purpose																		
All Uses .....	*	*	*	*	*	*	*	*	-	-	*	*	*	*	*	*	-	-
Transportation.....	*	*	*	*	-	-	-	-	-	-	-	-	*	*	*	*	-	-
Draught .....	*	*	-	-	*	*	*	*	-	-	*	*	-	-	-	-	*	*
Other Uses .....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Camels.....</b>	7260	100	4360	60.06	2900	39.94	7192	99.06	4310	59.37	2881	39.68	69	0.95	50	0.69	*	*
Under 4 Years .....	2041	28.11	1252	17.25	789	10.87	2034	28.02	1248	17.19	786	10.83	*	*	*	*	*	*
4 years and older .....	5219	71.89	3109	42.82	2111	29.08	5157	71.03	3062	42.18	2095	28.86	62	0.85	*	*	*	*
Camels Aged 4 Years and Older by Purpose																		
All Uses .....	5219	100	3109	59.57	2111	40.45	5157	98.81	3062	58.67	2095	40.14	62	1.19	*	*	*	*
Transportation.....	2975	57.00	2894	55.45	*	*	2929	56.12	2848	54.57	*	*	*	*	*	*	-	-
Draught .....	*	*	*	*	*	*	*	*	*	*	-	-	*	*	-	-	*	*
Meat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Milk	2001	38.34			2001	38.34	1991	38.15			1991	38.15	*	*			*	*
Other Uses .....	*	*	*	*	*	*	*	*	*	*	*	*	*	*	-	-	*	*

**FIGURE VII.6 DISTRIBUTION OF HORSES, ASSES, MULES AND CAMELS BY AGE AND SEX**



\* Note that for camels the age categories are under 4 years and 4 years and older.

**FIGURE VII.7 DISTRIBUTION OF HORSES, ASSES, MULES AND CAMELS BY SEX AND PURPOSE**



45.43 are males and the remaining are females. With respect to age distribution, the majorities of the horses and asses are of the age group 3 years and older.

The estimates of these animals (aged 3 years and older) by sex and purpose are also given in Summary Table VII.3. As indicated in the table, among the horses aged three years and older, almost all 98.43 percent were used for transportation. With regard to asses, about 47.21 percent were used for transportation whereas 51.41 percent were used for draught purposes. As to the camels 57 percent of them were used for transportation and 38.34 percent were used for milk. (See also Fig. VII.7)

## **2.4 Poultry**

Data on poultry population are collected as part of the livestock census, and the total poultry population in Dire Dawa administration is estimated to be about 47,273. In this report, poultry includes cocks, cockerels, pullets, laying hens, non-laying hens and chicks. Consequently, as shown in Summary Table VII.4 and Figure VII.8, about 40 percent of the poultry are laying hens (18,905), followed by chicks (13,000). Pullets are estimated to be 4,779 in the administration. Cockerels and cocks are also estimated separately, and are 2,745 and 5,594, respectively. Rural areas constitute 87.1 percent of the total poultry .

Moreover, average egg-laying period per hen and average number of eggs laid per hen during this period are estimated based on the data collected. Consequently, average egg-laying period per hen is estimated to be about 19 days while average number of eggs laid per hen per egg- laying period is about 11 eggs. Number of eggs laid per period are slightly higher in urban than in rural areas and could possibly attributed to raising better breed in urban areas.

SUMMARY TABLE VII.4: Estimated number of Poultry by Type for Rural and Urban Holdings

Type of Poultry	Rural and Urban Holdings		Rural Holdings		Urban Holdings	
	Number	%	Number	%	Number	%
All Poultry .....	47,273	100	41,172	87.09	6,101	12.91
Cocks .....	5,594	11.83	4,851	10.26	743	1.57
Cockerels .....	2,745	5.81	2,489	5.27	255	0.54
Pullets .....	4,779	10.11	4,226	8.94	553	1.17
Non-Laying Hens .....	2,250	4.76	2,017	4.27	233	0.49
Chicks .....	13,000	27.50	10,889	23.03	2,111	4.47
Laying Hens	18,905	39.99	16,699	35.32	2,206	4.67
Average Number Days/Clutch...	19		19		19	
Average Eggs/Hen/Clutch.....	11		11		12	

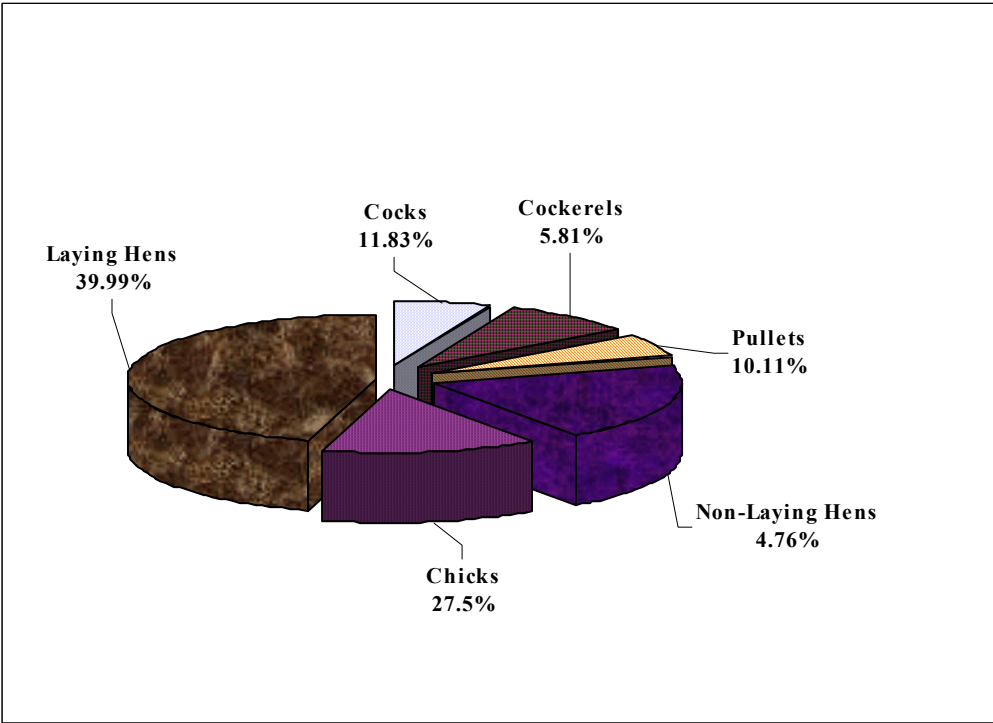
SUMMARY TABLE VII.5: Estimated number of Beehives by Type for Rural and Urban Holdings

Type of Beehive	Rural and Urban Holdings		Rural Holdings		Urban Holdings	
	Number	%	Number	%	Number	%
All Beehives .....	2,034	100	1234	60.67	*	*
Traditional Beehives ....	1,240	61	1234	60.67	*	*
Intermediate Beehives ....	*	*	-	-	*	*
Modern Beehives .....	-	-	-	-	-	-

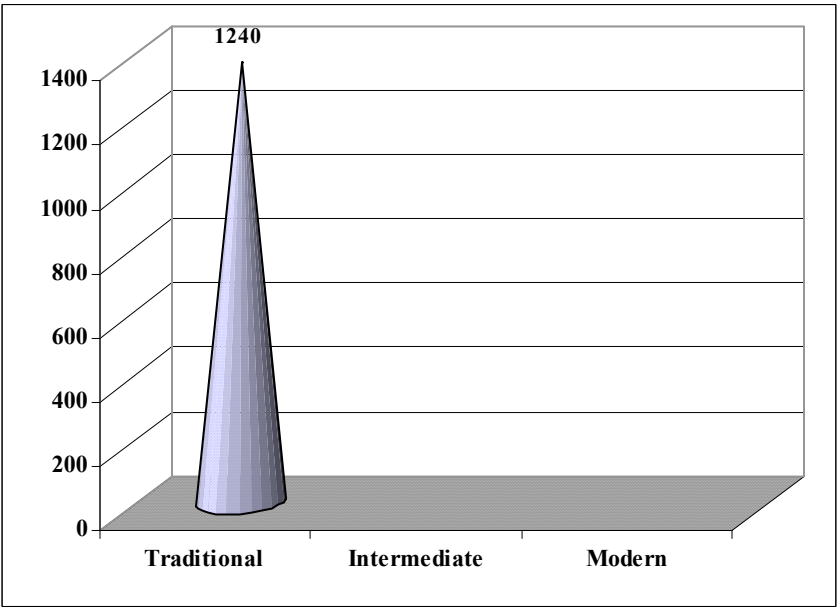
SUMMARY TABLE VII.6 : Milk and Honey Production for Rural and Urban Holdings

Item	Quantity Produced and Frequency		
	Rural and Urban Holdings	Rural Holdings	Urban Holdings
Cow Milk			
Average Daily Milk Producton(Liters/Cow)	1.77	1.702	2.978
Average Lactation Period (Months ) .....	7	8	7
Total Milk Production(Liters) .....	4,561,678	4,144,203	417,474
Camel Milk			
Average Daily Milk Production(Liters/Camel)	2..565	2.558	3.83
Average Lactation Period (Months ) .....	12	12	13
Total Milk Production(Liters) .....	917274	915301	*
Honey Production			
All Types of Beehives			
Production (Kilograms).....	8655	8619	*
Average Frequency (Harvest/Year) .....		2	2
Traditional Beehives			
Production (Kilograms).....	8655	8619	*
Average Frequency(Harvest./Year)...		2	2
Intermediate Beehives			
Production (Kilograms).....	-	-	-
Average Frequency(Harvest/Year)...		-	-
Modern Beehives			
Production (Kilograms).....	-	-	-
Average Frequency(Harvest/Year)...		-	-

**FIGURE VII. 8 DISTRIBUTION OF POULTRY BY TYPE**



**FIGURE VII. 9 DISTRIBUTION OF BEEHIVES BY TYPE**





## 2.5 Beehives

Information on beehives was also collected during the livestock census. A beehive is enumerated if and only if it produced honey at least once in the reference period (February 9, 2001 to February 8, 2002). As stated by the Ministry of Agriculture, there are three types of beehives, and these are traditional, intermediate and modern.

*Traditional [Fixed comb] Hive* is a hollow structure made of cheap materials like clay, straw, bamboo, false banana leaves, barks of tree, logs and animal dung. The bees fill all the available space with honeycombs from the top to down wards. The honeycombs cannot be removed since they are attached to the top and the sides of the hive. The honey can be removed only by removing one wall of the hive and breaking or cutting out the honeycomb (Reihard Fichtl and Admasu, 1994; Gezahegn Taddesse, 1993 E.C.).

*Intermediate [Transitional] Hive* is a long trough-shaped box with sloping sidewalls covered with bars of a fixed width. The hive consists of a bottom board, two sidewalls and front and back walls. One opening is made in the front wall to serve as flight entrance. The cover of the hive can be made from any material, which gives adequate protection against light, sun, and rain (Gezahegn Taddesse, 1993 E.C.; P.Seegeren et al, 1996).

*Modern Hive [Hive with Frames]* is a brood (offspring) chamber (box) with a fixed bottom board and flight board. In the bottom board there is a ventilation hole of size (15cmx30cm), which can be covered with fine wire mesh or other suitable material. The brood chamber holds ten frames, which are kept separately at the right distance by means of side bar, or nails. Queen excluder (not necessary) placed horizontally on top of the brood chamber (Gezahegn Taddesse, 1993 E.C.; P.Seegeren et al, 1996).

Any type of these beehives that produced honey at least once during the reference period (February 9, 2001 to February 8, 2002) was enumerated. Accordingly, the result of the census revealed that a total of 2,034 hives is estimated to be found in rural and urban areas of Dire Dawa Administration in which 61 percent is traditional beehive.

As indicated in Summary Table VII.5 , about 60.7 percent of the beehives are reported in rural areas.

### **3. LIVESTOCK PRODUCTS**

This section summarizes results on livestock products. The various animal products include milk and milk products, eggs, wool, meat, hides and skins. Although data on such livestock products are not easily obtainable in the Ethiopian traditional agricultural sector, an endeavor was made to collect data on milk and honey productions. The data were collected subjectively from the holders in the sampled households and the results obtained are briefly discussed below.

#### **3.1 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. Hence, data on these components have been collected and the total milk production in the region is estimated by multiplying these three components. However, two basic concepts about milk production should be mentioned here. “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. Therefore, in our case, milk production is estimated based on

the concept “net production”, and as indicated in Summary Table VII.6, the estimate of total milk production for rural and urban areas in Dire Dawa Administration during the reference period, is about 4.56 million liters of which 4.14 million liters (90.8 percent) is attributed to rural areas. A total of about 417 thousands liters of milk was as well estimated for urban areas.

Data on lactation period and average milk yield per cow per day were also collected. As a result, the average lactation period per cow in the administration is estimated to be about seven months, and average milk yield per cow per day is about 2.34 liters.

### **3.2 Honey Production**

To estimate honey production, number of hives, frequency of honey production and honey production per harvest are required. Therefore, these data were collected from the holders within sampled households both in rural and urban areas. As a result, the estimate of total honey production is about 8,655 kilograms of which the greater portion (96.6 percent) is harvested from rural areas. (See Summary Table VII.6).

As can be seen from the census data, honey was harvested twice in a year from traditional hives in rural and urban areas.

## **4 UTILIZATION OF LIVESTOCK PRODUCTS**

Data on the utilization of animal products were also collected during the census 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 byproducts such as butter, cheese, and 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. The products are

sometimes used as payments and gifts to others. The census data on the utilization of animal products in the rural and urban areas are presented in Summary Table VII.7. The census result reveals that of the total annual milk production, 53.22 percent was used for household consumption, 42.71 percent was sold, 0.02 percent was used for wages and the rest 4.06 percent was used for other purposes. With respect to the utilization of butter, 83.72 percent was used for household consumption and 13.42 percent was sold. All the total cheese produced was used for household consumption. Of the total honey produced, about 53.86 percent was sold, about 43.01 percent was used for household consumption, and 3.13 percent was used for other purposes.

Concerning utilization of the eggs produced, 65.84 percent was used for sale while only 17.86 percent of the total egg produced was used for household consumption. Moreover, 16.27 percent was used for other purposes and that could be for hatching. Holders' utilization practices on hides, and skins were also assessed and the results showed that 73.09 and 89.49 percent are used for household consumption, respectively.

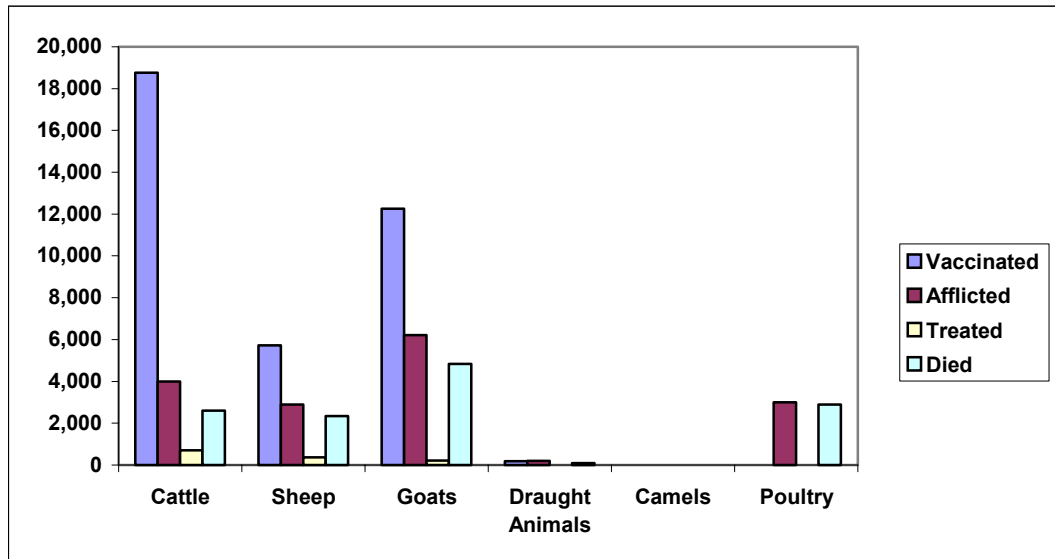
## **5. LIVESTOCK VACCINATION, DISEASE, TREATMENT AND DEATH**

Diseases have numerous negative impacts on productivity of herds i.e. death of animals, loss of weights, slow down growth, poor fertility performance, decrease in physical power and the likes. There have been many ways of fighting against diseases and among these, vaccinations (preventive measures) and treatments (curative measures) are the major ones. However, no efficient fight against disease or disease prevention is possible if descriptive data on prevalence of diseases, deaths, vaccinations, and treatments are not available. The availability of these data is also very important to set-up strategies that can assist in preventing and controlling diseases, by and large in improving veterinary services of the country. Hence, it was considered desirable to

SUMMARY TABLE VII.7: Livestock Product Utilization - Percentage of Uses for Rural and Urban Holdings

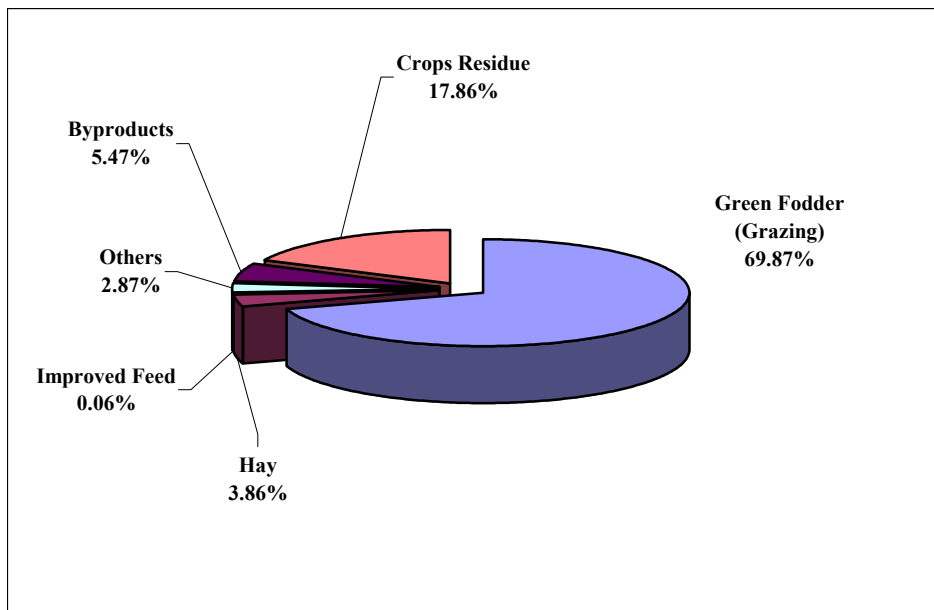
	Rural and Urban Holdings					Rural Holdings						Urban Holdings				
Type of Product	Total %	Percent of Product Utilized for:				Total %	Percent of Product Utilized for:				Total %	Percent of Product Utilized for:				
		Household Consumption	Sale	Wages in Kind	Other		Household Consumption	Sale	Wages in Kind	Other		Household Consumption	Sale	Wages in Kind	Other	
Milk	100	53.22	42.71	0.02	4.06	100	51.88	43.97	0.02	4.13	100	73.66	23.4	-	2.94	
Butter	100	83.72	13.42	-	2.85	100	83.31	13.77	-	2.92	100	94.34	4.54	-	1.12	
Cheese	100	100	-	-	-	100	100	-	-	-	100	100	-	-	-	
Beef	100	32.73	23.36	-	43.91	100	39.98	-	-	60.02	100	21.98	57.85	-	20.17	
Mutton/Goat Meat	100	79.11	14.95	-	5.94	100	78.92	14.41	-	6.66	100	80.26	18.29	-	1.45	
Eggs	100	17.86	65.84	0.03	16.27	100	12.92	70.4	-	16.68	100	71.61	16.23	0.31	11.85	
Honey	100	43.01	53.86	-	3.13	100	41.73	55.1	-	3.17	100	70.9	26.99	-	2.11	
Bees Wax	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wool	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hide	100	73.09	26.91	-	-	100	87.55	12.45	-	-	100	10.53	89.47	-	-	
Skin	100	89.49	8.68	-	1.83	100	95.65	2.47	-	1.89	100	14.42	84.45	-	1.13	

**FIGURE VII.10 DISTRIBUTION OF ANIMALS VACCINATED, AFFLICTED, TREATED AND DIED**



Note :- Draught Animals refer to horses , asses and mules.

**FIGURE VII.11 ANIMAL FEED PRACTICES OF HOLDERS**



collect information on vaccinations, treatments, diseases, and deaths of animals during the census.

Data on these parameters specifically on number of vaccinated, afflicted, treated and dead animals were therefore collected and the results are shown in Summary Table VII.8. The estimated number of vaccinated animals within the reference period in rural and urban areas of Dire Dawa Administration were about 37,429. Out of these animals, about 50.12 percent were cattle followed by goats, 32.75 percent. Sheep also accounted for about 15.29 percent.

In the same table, it is indicated that about 16,826 animals were diseased/afflicted by different types of diseases during the reference period and only 1,524 of them were treated. The cattle constituted about 46.33 percent of the total treated animals and 24.41 percent of sheep were treated as well.

According to the census data, greater number of animals was dead due to diseases of which 37.27 percent was goats. In addition, the estimated numbers of dead poultry and cattle are about 2,896 and 2,608, respectively. The number of sheep estimated dead is also about 2,338 heads. (See Summary Table VII.8 and Figure VII.10).

## **6. ANIMAL FEED**

Data on animal feed practices of holders in both the rural and urban areas of the region were gathered to assess feed utilization experience. For the purpose of this report, animal feeds are classified as green fodder (grazing), crop residue, improved feed, hay, industrial byproducts, and other feeds. *Green fodder* is simply pasture grasses; *crop residue* includes harvested byproducts (straw and chaff of cereals and pulses, etc.); *improved feed* is like alfalfa; *hay* includes any type of grass, clover etc. cut and dried as

**SUMMARY TABLE VII.8: Estimated number of Livestock Vaccinated, Afflicted, Treated, and Died for Rural and Urban Holdings**

Item	Rural and Urban Holdings		Rural Holdings		Urban Holdings	
	Number	%	Number	%	Number	%
Total Vaccinated	37,429	100	34087	91.07	3342	8.93
Cattle .....	18,760	50.12	17488	46.72	1272	3.40
Sheep .....	5723	15.29	4816	12.87	907	2.42
Goats .....	12257	32.75	11206	29.94	1051	2.81
Horses, Asses, and Mules ...	176	0.47	*	*	68	0.18
Camels .....	*	*	*	*	*	*
Poultry .....	*	*	*	*	*	*
Total Afflicted .....	16,826	100	14,049	83.50	2,777	16.50
Cattle .....	3,988	23.70	3,597	21.38	391	2.32
Sheep .....	2896	17.21	2400	14.26	496	2.95
Goats .....	6207	36.89	5764	34.26	443	2.63
Horses, Asses, and Mules ...	203	1.21	153	0.91	*	*
Camels .....	*	*	*	*	-	-
Poultry .....	2,999	17.82	1,601	9.52	1,398	8.31
Total Treated .....	1,524	100	920	60.37	603	39.57
Cattle .....	706	46.33	553	36.29	153	10.04
Sheep .....	372	24.41	*	*	231	15.16
Goats .....	210	13.78	*	*	140	9.19
Horses, Asses, and Mules ...	*	*	*	*	*	*
Camels .....	*	*	*	*	-	-
Poultry .....	*	*	-	-	*	*
Total Died	12,987	100	10,653	82.03	2,334	17.97
Cattle .....	2,608	20.08	2,333	17.96	275	2.12
Sheep .....	2338	18.00	2000	15.40	338	2.60
Goats .....	4840	37.27	4489	34.57	352	2.71
Horses, Asses, and Mules .	96	0.74	*	*	*	*
Camels .....	*	*	*	*	-	-
Poultry .....	2,896	22.30	1,561	12.02	1,335	10.28

**SUMMARY Table VII.9: Animal Feed Practices for Rural and Urban Holdings**

Item	Rural and Urban Holdings		Rural Holdings		Urban Holdings	
	Number Reporting	Percentage That Use:	Number Reporting	Percentage That Use:	Number Reporting	Percentage That Use:
Total		100		100		100
Green Fodder/Grazing .....	17,001	69.87	14,761	72.11	2241	56.63
Crops Residue .....	11,822	17.86	11,521	20.38	301	2.99
Improved Feed .....	*	*	*	*	*	*
Hay .....	3,046	3.86	2,133	3.19	912	7.82
By-products .....	4,679	5.47	3,271	2.88	1409	20.79
Others .....	2,669	2.87	1,475	1.39	1193	11.59



fodder; and finally industrial *byproducts* are like oil cake (rapeseed cake, nueg cake, sunflower cake, etc.), bran, and brewery residue.

According to the information collected on feed usage experience of holders in rural and urban areas of the administration, green fodder or grazing is the major type of feed (about 69.87 percent) followed crops residue, (17.86 percent). Moreover, as shown in Summary Table VII.9 and Figure VII.11 5.47 percent of by product, 3.86 percent of hay and 2.87 percent of other type of feed was used.

Summary Table VII.9 also highlights the number of holders reported each type of feed. According to the data, about 17,001 holders have used green fodder or grazing to feed their animals. Significant number of holders (11,822) both in rural and urban areas also reported that they used to feed crop residues for their animals. Moreover, as shown in Summary Table VII.9 and Figure VII.11 about 4,679 and 3,046 holders have reported that they have used byproducts and hay, respectively. Quite a number of holders have also reported other types of feeds.

## **STATISTICAL TABLES**

### **TABLE 7.1 - TABLE 7.36**

TABLE 7-1: NUMBER OF LIVESTOCK BY TYPE OF ANIMAL AND PLACE OF RESIDENCE

Place of Residence	ALL LIVESTOCK								
	CATTLE	SHEEP	GOATS	HORSES	ASSES	MULES	CAMELS	POULTRY	BEEHIVES
Rural + Urban	54,155	34,015	91,007	127	9,934	*	7,260	47,273	2,034
Rural	50,712	28,950	84,517	-	9,600	*	7,192	41,172	1,234
Urban	3,443	5,065	6,490	127	335	*	69	6,101	*

TABLE 7-2: NUMBER OF CATTLE BY AGE AND SEX AND PLACE OF RESIDENCE

Place of Residence	CATTLE										
	ALL CATTLE	MALE					FEMALE				
		< 6 Months	6 Mo < 1yr	1 - <3 yrs	3 - < 10 yrs	10 yrs &Over	< 6 Months	6 Mo < 1yr	1 - <3 yrs	3 - <10 yrs	10 yrs &Over
Rural + Urban	54,155	4,191	2,364	4,257	7,083	*	4,595	2,563	6,185	21,381	1,505
Rural	50,712	3,904	2,214	4,021	6,868	*	4,239	2,338	5,767	19,934	1,403
Urban	3,443	287	150	235	215	*	355	225	418	1,447	103

TABLE 7-3: NUMBER OF SHEEP BY AGE AND SEX AND PLACE OF RESIDENCE

Place of Residence	SHEEP								
	ALL SHEEP	MALE				FEMALE			
		< 6 Months	6 Mo < 1yr	1 - <2 yrs	2 yrs &Over	< 6 Months	6 Mo < 1yr	1 - <2 yrs	2 yrs &over
Rural + Urban	34,015	5,003	1,846	1,998	2,204	4,521	1,775	3,051	13,616
Rural	28,950	4,186	1,502	1,745	1,855	3,882	1,344	2,591	11,844
Urban	5,065	817	343	253	349	639	431	460	1,772

TABLE 7-4: NUMBER OF GOATS BY AGE AND SEX AND PLACE OF RESIDENCE

Place of Residence	GOATS								
	ALL GOATS	MALE				FEMALE			
		< 6 Months	6 Mo < 1yr	1 - <2 yrs	2 yrs &Over	< 6 Months	6 Mo < 1yr	1 - <2 yrs	2 yrs &Over
Rural + Urban	91,007	13,494	4,145	3,420	3,367	14,081	6,172	8,741	37,588
Rural	84,517	12,427	3,792	3,175	3,150	13,124	5,671	8,054	35,123
Urban	6,490	1,067	353	245	216	957	501	687	2,465

TABLE 7-5: NUMBER OF HORSES AND ASSES BY AGE AND SEX AND PLACE OF RESIDENCE

Place of Residence	HORSES AND ASSES									
	ALL HORSES	HORSES				ALL ASSES	ASSES			
		MALE		FEMALE			MALE		FEMALE	
		< 3 Years	3 Yrs & more	< 3 Years	3 Yrs & more		< 3 Years	3 Yrs & more	< 3 Years	3 Yrs & more
Rural + Urban	127	-	127	-	-	9,934	969	3,544	972	4,450
Rural	-	-	-	-	-	9,600	933	3,369	946	4,350
Urban	127	-	127	-	-	335	36	174	25	99

TABLE 7-6: NUMBER OF MULES AND CAMELS BY AGE AND SEX AND PLACE OF RESIDENCE

Place of Residence	MULES					CAMELS				
	All Mules	MALE		FEMALE		All Camels	MALE		FEMALE	
		< 3 Years	3 Years and Older	< 3 Years	3 Years and Older		< 4 Years	4 Years and Older	< 4 Years	4 Years and Older
Rural +Urban	*	*	*	*	*	7,260	1,252	3,109	789	2,111
Rural	*	*	-	*	*	7,192	1,248	3,062	786	2,095
Urban	*	*	*	-	-	69	*	*	*	*

TABLE 7-7: CATTLE AGED 3 – 10 YEARS BY SEX AND PURPOSE AND PLACE OF RESIDENCE

Place of Residence	CATTLE AGED 3 – 10 YEARS									
	Total	MALE				FEMALE				
		Draught	Beef	Breeding	Other	Milk	Draught	Beef	Breeding	Other
Rural + Urban	28,464	5,940	655	423	*	18,774	*	*	1,711	809
Rural	26,802	5,843	606	361	*	17,623	*	*	1,460	770
Urban	1,662	97	48	62	*	1,150	*	-	251	*

TABLE 7-8: SHEEP AGED 2 AND OLDER BY SEX AND PURPOSE AND PLACE OF RESIDENCE

Place of Residence	SHEEP AGED 2 AND OLDER								
	Total	MALE				FEMALE			
		Mutton/Meat	Wool	Breeding	Other	Mutton/Meat	Wool	Breeding	Other
Rural + Urban	15,820	1,220	*	940	*	*	*	13,470	*
Rural	13,699	985	*	833	-	*	*	11,734	-
Urban	2,121	235	*	107	*	*	*	1,737	*

TABLE 7-9: GOATS AGED 2 AND OLDER BY SEX AND PURPOSE  
AND PLACE OF RESIDENCE

Place of Residence	GOATS AGED 2 AND OLDER							
	Total	MALES			FEMALES			
		Meat	Breeding	Other	Meat	Milk	Breeding	Other
Rural + Urban	40,954	1,494	1,871	*	152	1,694	35,682	*
Rural	38,273	1,386	1,764	-	*	1,413	33,553	*
Urban	2,681	108	107	*	*	281	2,129	-

TABLE 7-10: HORSES BY SEX AND PURPOSE AND PLACE OF RESIDENCE

Place of Residence	HORSES AGED 3 AND OLDER						
	Total	MALES			FEMALES		
		Transportation	Draught	Other	Transportation	Draught	Other
Rural + Urban	127	125	-	*	-	-	-
Rural	-	-	-	-	-	-	-
Urban	127	125	-	*	-	-	-

TABLE 7-11: ASSES AGED 3 YEARS AND OVER BY SEX AND PURPOSE AND PLACE OF RESIDENCE

Place of Residence	ASSES AGED 3 YEARS AND OLDER						
	TOTAL	MALES			FEMALES		
		Transportation	Draught	Other	Transportation	Draught	Other
Rural + Urban	7,994	1,393	2,147	*	2,381	1,963	*
Rural	7,720	1,265	2,105	-	2,307	1,944	*
Urban	274	128	42	*	74	*	*

TABLE 7-12: MULES AGED 3 YEARS AND ABOVE BY SEX AND PURPOSE  
AND PLACE OF RESIDENCE

Place of Residence	MULES AGED 3 YEARS AND OLDER						
	TOTAL	MALES			FEMALES		
		Transportation	Draught	Other	Transportation	Draught	Other
Rural + Urban	*	*	-	-	-	*	-
Rural	*	-	-	-	-	*	-
Urban	*	*	-	-	-	-	-

TABLE 7-13: CAMELS BY SEX AND PURPOSE AND PLACE OF RESIDENCE

Place of Residence	CAMELS AGED 4 YEARS AND OLDER									
	TOTAL	MALES				FEMALES				
		Meat	Draught	Transportation	Other	Meat	Draught	Milk	Transportation	Other
Rural + Urban	5,219	-	*	2,894	*	-	*	2,001	*	*
Rural	5,157	-	*	2,848	*	-	-	1,991	*	*
Urban	62	-	-	*	-	-	*	*	-	*

TABLE 7-14: POULTRY INVENTORY AND PLACE OF RESIDENCE

Place of Residence	Total Poultry	Cocks	Cockerels	Pullets	Non-Laying Hens	Chicks	Laying Hens	Avg. Number of Clutches	Avg. Egg Production/Hen/Clutch
Rural + Urban	47,273	5,594	2,745	4,779	2,250	13,000	18,905	19	11
Rural	41,172	4,851	2,489	4,226	2,017	10,889	16,699	19	11
Urban	6,101	743	255	553	233	2,111	2,206	19	12

TABLE 7-15: BEEHIVE INVENTORY AND PRODUCTION OF HONEY AND PLACE OF RESIDENCE

Place of Residence	All Beehives		Traditional Beehives			Intermediate Beehives			Modern Beehives		
	Number of hives	Total annual honey production	Number of hives	Avg. frequency of production	Total annual honey production	Number of hives	Avg. frequency of production	Total annual honey production	Number of hives	Avg. frequency of production	Total annual honey production
Rural + Urban	2,034	8,655	1,240	2	8,655	*	-	-	-	-	-
Rural	1,234	8,619	1,234	2	8,619	-	-	-	-	-	-
Urban	*	*	*	2	*	*	-	-	-	-	-

TABLE 7-16: NUMBER OF DAIRY ANIMALS, MILK PRODUCTION AND LACTATION PERIOD AND PLACE OF RESIDENCE

Place of Residence	Number Of Dairy Cows	Number Of Milking Cows	Average Daily Milk Prod.	Average Lactation Period (Mn)	Total Milk Production (Lt)	Number Of Dairy Camels	Number Of Milking Camels	Average Daily Milk Prod.	Average Lactation Period (Mn)	Total Milk Production (Lt)
Rural + Urban	18,774	14,737	1.77	74	561,678	2,001	1,440	2.565	12	917,274
Rural	17,623	13,849	1.702	84	144,203	1,991	1,352	2.558	12	915,301
Urban	1,150	888	2.978	7	417,474	*	*	3.83	13	*

TABLE 7-17: NUMBER OF CATTLE BY SEX AND BREED AND PLACE OF RESIDENCE

Place of Residence	Total	MALE			FEMALE		
		Indigenous	Hybrid	Exotic	Indigenous	Hybrid	Exotic
Rural + Urban	54,155	17,873	*	*	35,890	196	143
Rural	50,712	17,015	*	-	33,484	*	*
Urban	3,443	858	*	*	2,406	*	78

TABLE 7-18: NUMBER OF SHEEP BY SEX AND BREED AND PLACE OF RESIDENCE

Place of Residence	Total	MALE			FEMALE		
		Indigenous	Hybrid	Exotic	Indigenous	Hybrid	Exotic
Rural + Urban	34,015	10,970	*	*	22,909	*	-
Rural	28,950	9,216	*	-	19,612	*	-
Urban	5,065	1,755	-	*	3,297	*	-

TABLE 7-19: NUMBER OF GOATS BY SEX AND BREED AND PLACE OF RESIDENCE

Place of Residence	Total	MALE			FEMALE		
		Indigenous	Hybrid	Exotic	Indigenous	Hybrid	Exotic
Rural + Urban	91,007	24,418	*	-	66,567	*	-
Rural	84,517	22,544	-	-	61,973	-	-
Urban	6,490	1,874	*	-	4,595	*	-

TABLE 7-20: ESTIMATED NUMBER OF LIVESTOCK VACCINATED BY TYPE OF ANIMAL AND PLACE OF RESIDENCE

Place of Residence	Cattle	Sheep	Goats	Draught Animals	Camels	Poultry
Rural + Urban	18,760	5,723	12,257	176	*	*
Rural	17,488	4,816	11,206	*	*	*
Urban	1,272	907	1,051	68	*	*

TABLE 7-21: ESTIMATED NUMBER OF LIVESTOCK AFFLICTED/DISEASED BY TYPE OF ANIMAL AND PLACE OF RESIDENCE

Place of Residence	Cattle	Sheep	Goats	Draught Animals	Camels	Poultry
Rural + Urban	3,988	2,896	6,207	203	*	2,999
Rural	3,597	2,400	5,764	153	*	1,601
Urban	391	496	443	*	-	1,398

TABLE 7-22: ESTIMATED NUMBER OF LIVESTOCK TREATED BY TYPE OF ANIMAL AND PLACE OF RESIDENCE

Place of Residence	Cattle	Sheep	Goats	Draught Animals	Camels	Poultry
Rural + Urban	706	372	210	*	*	*
Rural	553	*	*	*	*	-
Urban	153	231	140	*	-	*

TABLE 7-23: ESTIMATED NUMBER OF LIVESTOCK DIED BY TYPE OF ANIMAL AND PLACE OF RESIDENCE

Place of Residence	Cattle	Sheep	Goats	Draught Animals	Camels	Poultry
Rural + Urban	2,608	2,338	4,840	96	*	2,896
Rural	2,333	2,000	4,489	*	*	1,561
Urban	275	338	352	*	-	1,335

TABLE 7-24: ANIMAL FEED PRACTICES OF PEASNT HOLDERS – PERCENTAGE USED BY TYPE OF FEED AND PLACE OF RESIDENCE

Place of Residence	Total (%)	Green Fodder	Crop Residue	Improved Feed	Hay	By-Product	Others
Rural + Urban	100	69.87	17.86	*	3.86	5.47	2.87
Rural	100	72.11	20.38	*	3.19	2.88	1.39
Urban	100	56.63	2.99	*	7.82	20.79	11.59



TABLE 7-25: ANIMAL FEED PRACTICES OF PEASNT HOLDERS – NUMBER OF HOLDERS REPORTING BY TYPE OF FEED AND PLACE OF RESIDENCE

Place of Residence	Green Fodder	Crop Residue	Improved Feed	Hay	By-Product	Others
Rural + Urban	17,001	11,822	*	3,046	4,679	2,669
Rural	14,761	11,521	*	2,133	3,271	1,475
Urban	2,241	301	*	912	1,409	1,193

TABLE 7-26: LIVESTOCK PRODUCT UTILIZATION - PERCENTAGE OF USES AND PLACE OF RESIDENCE

Place of Residence	Total (%)	PERCENT OF MILK UTILIZED FOR:			
		Household Consumption	Sale	Wages in Kind	Other
Rural + Urban	100	53.22	42.71	0.02	4.06
Rural	100	51.88	43.97	0.02	4.13
Urban	100	73.66	23.4	-	2.94

TABLE 7-27: LIVESTOCK PRODUCT UTILIZATION - PERCENTAGE OF USES AND PLACE OF RESIDENCE

Place of Residence	Total (%)	PERCENT OF BUTTER UTILIZED FOR:			
		Household Consumption	Sale	Wages in Kind	Other
Rural + Urban	100	83.72	13.42	-	2.85
Rural	100	83.31	13.77	-	2.92
Urban	100	94.34	4.54	-	1.12

TABLE 7-28: LIVESTOCK PRODUCT UTILIZATION - PERCENTAGE OF USES AND PLACE OF RESIDENCE

Place of Residence	Total (%)	PERCENT OF CHEESE UTILIZED FOR:			
		Household Consumption	Sale	Wages in Kind	Other
Rural + Urban	100	100	-	-	-
Rural	100	100	-	-	-
Urban	100	100	-	-	-

TABLE 7-29: LIVESTOCK PRODUCT UTILIZATION - PERCENTAGE OF USES AND PLACE OF RESIDENCE

Place of Residence	Total (%)	PERCENT OF BEEF UTILIZED FOR:			
		Household Consumption	Sale	Wages in Kind	Other
Rural + Urban	100	32.73	23.36	-	43.91
Rural	100	39.98	-	-	60.02
Urban	100	21.98	57.85	-	20.17

TABLE 7-30: LIVESTOCK PRODUCT UTILIZATION - PERCENTAGE OF USES AND PLACE OF RESIDENCE

Place of Residence	Total (%)	PERCENT OF GOAT MEAT/MUTTON UTILIZED FOR:			
		Household Consumption	Sale	Wages in Kind	Other
Rural + Urban	100	79.11	14.95	-	5.94
Rural	100	78.92	14.41	-	6.66
Urban	100	80.26	18.29	-	1.45

TABLE 7-31: LIVESTOCK PRODUCT UTILIZATION - PERCENTAGE OF USES AND PLACE OF RESIDENCE

Place of Residence	Total (%)	PERCENT OF EGGS UTILIZED FOR:			
		Household Consumption	Sale	Wages in Kind	Other
Rural + Urban	100	17.86	65.84	0.03	16.27
Rural	100	12.92	70.4	-	16.68
Urban	100	71.61	16.23	0.31	11.85

TABLE 7-32: LIVESTOCK PRODUCT UTILIZATION - PERCENTAGE OF USES AND PLACE OF RESIDENCE

Place of Residence	Total (%)	PERCENT OF HONEY UTILIZED FOR:			
		Household Consumption	Sale	Wages in Kind	Other
Rural + Urban	100	43.01	53.86	-	3.13
Rural	100	41.73	55.1	-	3.17
Urban	100	70.9	26.99	-	2.11

TABLE 7-33: LIVESTOCK PRODUCT UTILIZATION - PERCENTAGE OF USES AND PLACE OF RESIDENCE

Place of Residence	Total (%)	PERCENT OF WAX UTILIZED FOR:			
		Household Consumption	Sale	Wages in Kind	Other
Rural + Urban	-	-	-	-	-
Rural	-	-	-	-	-
Urban	-	-	-	-	-

TABLE 7-34: LIVESTOCK PRODUCT UTILIZATION - PERCENTAGE OF USES AND PLACE OF RESIDENCE

Place of Residence	Total (%)	PERCENT OF WOOL UTILIZED FOR:			
		Household Consumption	Sale	Wages in Kind	Other
Rural + Urban	-	-	-	-	-
Rural	-	-	-	-	-
Urban	-	-	-	-	-

TABLE 7-35: LIVESTOCK PRODUCT UTILIZATION - PERCENTAGE OF USES AND PLACE OF RESIDENCE

Place of Residence	Total (%)	PERCENT OF HIDES UTILIZED FOR:			
		Household Consumption	Sale	Wages in Kind	Other
Rural + Urban	100	73.09	26.91	-	-
Rural	100	87.55	12.45	-	-
Urban	100	10.53	89.47	-	-

TABLE 7-36: LIVESTOCK PRODUCT UTILIZATION - PERCENTAGE OF USES AND PLACE OF RESIDENCE

Place of Residence	Total (%)	PERCENT OF SKIN UTILIZED FOR:			
		Household Consumption	Sale	Wages in Kind	Other
Rural + Urban	100	89.49	8.68	-	1.83
Rural	100	95.65	2.47	-	1.89
Urban	100	14.42	84.45	-	1.13

**Annex Tables 7.1 - 7.10**

**ESTIMATES, STANDARD ERRORS, AND COEFFICIENT OF  
VARIATIONS FOR SELECTED LIVESTOCK VARIABLES  
RURAL+ URBAN**

Annex Table 7.1- Estimates of Livestock, Standard Error and Coefficient of Variation by Type of Animal

PLACE OF RESIDENCE	CATTLE			SHEEP			GOATS		
	Number	SE	CV	Number	SE	CV	Number	SE	CV
Dire Dawa Admini.	54,155	4,526	8	34,015	4,213	12	91,007	9,398	10

cont'd

PLACE OF RESIDENCE	HORSES			ASSES			MULES			CAMELS		
	Number	SE	CV	Number	SE	CV	Number	SE	CV	Number	SE	CV
Dire Dawa Admini.	127	38	30	9,934	858	9	229	135	59	7,260	1,140	16

Annex Table 7.2- Estimates of Cattle, Standard Error and Coefficient of Variation by Age group

**Male Cattle**

PLACE OF RESIDENCE	<6MONTHS			6MONTHS-<1YEAR			1-<3YEARS			3-<10YAERS			10YAERS & OLDER		
	Number	SE	CV	Number	SE	CV	Number	SE	CV	Number	SE	CV	Number	SE	CV
Dire Dawa Admini.	4,191	380	9	2,364	264	11	4,257	468	11	7,083	743	11	33	34	102

**Female Cattle**

PLACE OF RESIDENCE	<6MONTHS			6MONTHS-<1YEAR			1-<3YEARS			3-<10YAERS			10YAERS & OLDER		
	Number	SE	CV	Number	SE	CV	Number	SE	CV	Number	SE	CV	Number	SE	CV
Dire Dawa Admini.	4,595	573	12	2,563	365	14	6,185	691	11	21,381	1,885	9	1,505	356	24

Annex Table 7.3- Estimates of Sheep, Standard Error and Coefficient of Variation by Age group

**Male Sheep**

PLACE OF RESIDENCE	<6MONTHS			6MONTHS<-1YEAR			1-<2YEARS			2 YEARS & OLDER		
	Number	SE	CV	Number	SE	CV	Number	SE	CV	Number	SE	CV
Dire Dawa Admini.	5,003	750	15	1,846	270	15	1,998	399	20	2,204	459	21

**Female Sheep**

PLACE OF RESIDENCE	<6MONTHS			6MONTHS<-1YEAR			1-<2YEARS			2 YEARS & OLDER		
	Number	SE	CV	Number	SE	CV	Number	SE	CV	Number	SE	CV
Dire Dawa Admini.	4,521	730	16	1,775	319	18	3,051	478	16	13,616	1,744	13

Annex Table 7.4- Estimates of Goats, Standard Error and Coefficient of Variation by Age group

**Male Goats**

PLACE OF RESIDENCE	<6MONTHS			6MONTHS - <1YEAR			1-<2YEARS			2 YEARS & OLDER		
	Number	SE	CV	Number	SE	CV	Number	SE	CV	Number	SE	CV
Dire Dawa Admini.	13,494	1,327	10	4,145	591	14	3,420	423	12	3,367	570	17

**Female Goats**

PLACE OF RESIDENCE	<6MONTHS			6MONTHS - <1YEAR			1-<2YEARS			2 YEARS & OLDER		
	Number	SE	CV	Number	SE	CV	Number	SE	CV	Number	SE	CV
Dire Dawa Admini.	14,081	1,730	12	6,172	993	16	8,741	1,374	16	37,588	3,805	10

Annex Table 7.5- Estimates of Horses, Standard Error and Coefficient of Variation by Age group

PLACE OF RESIDENCE	MALE						FEMALE					
	<3YEARS			3YEARS & OLDER			<3YEARS			3YEARS & OLDER		
	Number	SE	CV	Number	SE	CV	Number	SE	CV	Number	SE	CV
Dire Dawa Admini.	-	-	-	127	38	30	-	-	-	-	-	-

Annex Table 7.6- Estimates of Asses, Standard Error and Coefficient of Variation by Age group

PLACE OF RESIDENCE	MALE						FEMALE					
	<3YEARS			3YEARS & OLDER			<3YEARS			3YEARS & OLDER		
	Number	SE	CV	Number	SE	CV	Number	SE	CV	Number	SE	CV
Dire Dawa Admini.	969	148	15	3,544	467	13	972	163	17	4,450	598	13

Annex Table 7.7- Estimates of Mules, Standard Error and Coefficient of Variation by Age group

PLACE OF RESIDENCE	MALE						FEMALE					
	<3YEARS			3YEARS & OLDER			<3YEARS			3YEARS & OLDER		
	Number	SE	CV	Number	SE	CV	Number	SE	CV	Number	SE	CV
Dire Dawa Admini.	78	46	59	6	6	94	73	45	63	73	45	63

Annex Table 7.8- Estimates of Camels, Standard Error and Coefficient of Variation by Age group

PLACE OF RESIDENCE	MALE						FEMALE					
	<4YEARS			4YEARS & OLDER			<4YEARS			4YEARS & OLDER		
	Number	SE	CV	Number	SE	CV	Number	SE	CV	Number	SE	CV
Dire Dawa Admini.	1,252	235	19	3,109	746	24	789	161	20	2,111	395	19

Annex Table 7.9- Estimates of Poultry, Standard Error and Coefficient of Variation By Type

PLACE OF RESIDENCE	Total Poultry			Cocks			Cockerels			Pullets			Non Laying Hens			Chicks			Laying Hens		
	Numb er	SE	CV	Numb er	SE	CV	Numb er	SE	CV	Numb er	SE	CV	Numb er	SE	CV	Numb er	SE	CV	Number	SE	CV
Dire Dawa Admini.	47,273	3,661	8	5,594	643	12	2,745	471	17	4,779	654	14	2,250	444	20	13,000	1,318	10	18,905	1,526	8

Annex Table 7.10- Estimates of Beehives, Standard Error and Coefficient of variation by Type

PLACE OF RESIDENCE	ALL BEEHIVES			TRADITIONAL			INTERMEDIATE			MODERN		
	Number	SE	CV	Number	SE	CV	Number	SE	CV	Number	SE	CV
Dire Dawa Admini.	2,034	493	24	1,240	287	23	794	401	51	-	-	-