AGRICULTURAL CENSUS
STATS BRIEF 2015

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1.0 Preface

This Stats Brief presents preliminary results of the 2015 Agricultural Census. The results are provisional and may be adjusted upon release of the main report after completion of data analysis.

The Brief focuses primarily on the main indicators in the agricultural sector, such as livestock population, births and deaths as well as area planted, area harvested and yields by crop type.

The 2015 Agricultural Census was conducted by Statistics Botswana in collaboration with the Department of Agricultural Research, Statistics & Policy Development (DARSPD) in the Ministry of Agriculture.

I am grateful to the Ministry of Agriculture for their enduring support, the Ministry of Youth, Sports and Culture for providing enumerators for the exercise and to all other organisations and individuals who contributed to the success of this Agricultural Census. I wish to thank in particular the farmers who made time to respond to the questionnaires.

Dr Burton Mguni
Acting Statistician General
December 2016.

2.0 Introduction

The 2015 Agricultural Census is the fifth (5th) to be conducted since independence at an interval of ten (10) years. The Agricultural Census was conducted with the objective (i) to provide time series basic information on crop and livestock production as well as farming practices and farm labour; (ii) to utilise the results and experience gained from the agricultural census to better plan for future annual agricultural surveys to be carried out in the ten years between agricultural censuses, commencing in 2017 and; (iii) to provide new baseline data at national and district levels with the view to informing development planning and policy-decision making.

3. 0 Scope and Coverage

The 2015 agricultural census covered, among other things, the following:

a) Number of agricultural holdings and principal characteristics of members of the holdings such as age, sex, marital status, education level, economic activities, as well as the size and fragmentation of holdings and land tenure;

b) Land use for both pastoral and crop farming;

c) Inventory of livestock (by type, age and sex) and poultry in the holding;

d) Farming practices.

This Stats Brief however covers main indicators only while other indicators will be covered in the main report.

4.0 Survey Methodology

The agricultural census forms a basis for the review of statistical infrastructure for an appropriate food and agricultural information system for the next ten years.

The methodology used for the 2015 Agricultural Census was based on the nine (9) Administrative Districts covering the entire country. Each District is divided into sub-districts called Census Districts comprising of Villages, Lands and Cattle Posts. The methodology applied was similar to that used for the 1982, 1993 and 2004 agricultural censuses. The universe of study was divided into two parts, viz. (i) traditional holdings and (ii) commercial holdings. A sample-based survey was used for traditional holdings while complete enumeration was used for commercial holdings.

Data collection in the traditional sector started in January and was completed in November, 2015 while in the commercial sector it was carried out from August to December, 2015.

5.0 The 2015 Agricultural Census Results

The 2015 Agricultural Census was conducted during a drought year, the negative effects of which might be reflected in the results.

5.1 Livestock Statistics

Livestock statistics for both the traditional and commercial sectors is presented in Table 5.1.1 up to Table 5.1.6.

Table 5.1.1: Cattle Statistics: Cattle Holdings, Population, Births & Deaths.

	Cattle Holdings			Cattle Population			Cattle Inventory	
	Male owned	Female owned	Total	Male owned	Female owned	Total cattle	Births	Deaths
SOUTHERN	4,661	1,621	6,282	154,704	29,706	184,410	45,360	12,572
SOUTH EAST	328	66	394	4,654	871	5,525	1,386	306
KWENENG	4,365	1,117	5,482	194,338	25,217	219,555	55,345	12,297
KGATLENG	1,606	404	2,010	74,681	16,242	90,923	22,120	5,652
CENTRAL	11,558	3,435	14,993	635,671	108,488	744,159	179,304	42,627
NORTH EAST	1,187	971	2,158	18,736	9,646	28,382	6,806	1,723
NGAMILAND	3,358	1,524	4,882	199,636	38,496	238,132	60,786	21,643
GHANTSI	823	220	1,043	59,665	10,059	69,724	19,780	4,710
KGALAGADI	988	229	1,217	97,021	11,153	108,174	30,348	8,448
TOTAL Traditional	**28,874**	**9,587**	**38,461**	**1,439,106**	**249,878**	**1,688,984**	**421,235**	**109,978**
TOTAL Commercial			**1,301**			**383,699**	**88,986**	**12,354**
TOTAL			**39,762**			**2,072,683**	**510,221**	**122,332**

Table 5.1.1 shows cattle holdings, population, births and deaths. The figures show that the Central district had the highest cattle holdings in the country at 14,993. The same district also registered the highest cattle population (744,159). South East district trailed behind in the number of cattle holdings at 394 and cattle population at 5,525 during the 2015 agricultural census. Male holders (28,874) are predominant over female holders (9,587), indicating that decisions on cattle farming are mainly done by males.

Table 5.1.2: Cattle Population and Inventory between 2004 and 2015 Censuses

		Population	Births	Deaths
2004	Traditional	1,939,927	466,804	245,434
	Commercial	214,893	47,016	10,238
	Total	**2,154,820**	**513,820**	**255,672**
2015	Traditional	1,688,984	421,235	109,978
	Commercial	383,699	88,986	12,354
	Total	**2,072,683**	**510,221**	**122,332**
% change		***-3.81***	***-0.70***	***-52.15***

Table 5.1.2 above illustrates the change in cattle population, births and deaths between the 2004 and 2015 agricultural censuses. Since the last agricultural census, cattle population has dropped by 3.81 percent from 2,154,820 in 2004 to 2,072,683 in 2015. Births slightly dropped by 0.70 percent during the same period. However, deaths reduced by a remarkable 52.15 percent from 255,672 in 2004 to 122,332 in 2015.

Table 5.1.3: Goats Statistics: Goats Holdings, Population, Births & Deaths.

	Goats Holdings			Goats Population			Goats Inventory	
	Male owned	Female owned	Total holdings	Male owned	Female owned	Total goats	Births	Deaths
SOUTHERN	5,138	2,662	7,800	125,874	46,497	172,371	76,412	8,418
SOUTH EAST	481	152	633	12,468	2,899	15,367	6,546	631
KWENENG	4,610	2,013	6,623	120,761	42,535	163,296	72,478	7,738
KGATLENG	1,326	416	1,742	42,712	12,514	55,226	24,096	1,837
CENTRAL	12,207	5,258	17,465	398,800	122,720	521,520	228,731	21,289
NORTH EAST	1,658	1,888	3,546	32,928	28,266	61,194	24,715	3,390
NGAMILAND	2,720	1,543	4,263	80,591	31,013	111,604	45,432	4,452
GHANTSI	589	175	764	22,444	4,526	26,970	12,172	896
KGALAGADI	1,095	469	1,564	54,937	14,939	69,876	31,039	2,013
TOTAL Traditional	***29,824***	***14,576***	***44,400***	***891,515***	***305,909***	***1,197,424***	***521,621***	***50,664***
TOTAL Commercial			***898***			***61,987***	***24,081***	***9,623***
TOTAL			**45,298**			**1,259,411**	**545,702**	**60,287**

Table 5.1.3 above illustrates goats holdings and population, births and deaths. The figures indicate that the Central district registered the highest goats holdings (17,465) and the highest goats population (521,520) in 2015. The lowest goats holdings (633) and population (15,367) were recorded in the South East district.

Likewise, the Central district had the highest births and deaths, while South East had the lowest in both births and deaths.

Table 5.1.4: Goats population and Inventory between 2004 and 2015 censuses

		Population	Births	Deaths
2004	Traditional	1,518,456	731,401	332,844
	Commercial	31,881	12,074	6,598
	Total	**1,550,337**	**743,475**	**339,442**
2015	Traditional	1,197,424	521,621	50,664
	Commercial	61,987	24,081	9,623
	Total	**1,259,411**	**545,702**	**60,287**
% change		***-18.77***	***-26.60***	***-82.24***

Table 5.1.4 shows goats population, births and deaths recorded in the 2004 and 2015 agricultural censuses. At the national level, goats' population and births decreased during the period under review. Goats' deaths reduced steeply by 82.24 percent from 339,442 to 60,287.

Table 5.1.5: Sheep Statistics: Sheep Population, Birth & Deaths.

	Sheep Holdings			Sheep Population			Sheep Inventory	
	Male owned	Female owned	Total holdings	Male owned	Female owned	Total sheep	Births	Deaths
SOUTHERN	2,252	747	2,999	46,269	10,742	57,011	21,583	6,837
SOUTH EAST	113	28	141	1,663	397	2,060	786	218
KWENENG	1,830	579	2,409	30,146	6,370	36,516	13,333	3,608
KGATLENG	407	92	499	8,913	1,130	10,043	3,895	810
CENTRAL	3,617	1,077	4,694	59,146	14,812	73,958	26,593	9,486
NORTH EAST	260	99	359	4,363	1,050	5,413	1,559	530
NGAMILAND	457	136	593	11,830	2,870	14,700	4,849	1,940
GHANTSI	152	26	178	5,147	716	5,863	1,997	518
KGALAGADI	654	191	845	25,957	5,243	31,200	12,329	2,862
TOTAL Traditional	***9,742***	***2,975***	***12,717***	***193,434***	***43,330***	***236,764***	***86,924***	***26,809***
TOTAL Commercial			***502***			***28,198***	***9,646***	***3,513***
TOTAL			**13,219**			**264,962**	**96,570**	**30,322**

Table 5.1.5 displays sheep holdings, population, births and deaths. The figures indicate that, of the total sheep holdings across districts, the Central district had the highest sheep holdings (4,694) and the highest sheep population (73,958). The lowest sheep holdings (141) and sheep population (2,060) were in the South East district.

Table 5.1.6: Sheep Population and Inventory between 2004 and 2015 Agricultural Censuses

		Population	Births	Deaths
2004	Traditional	232,168	92,080	45,579
	Commercial	11,734	3,604	1,822
	Total	**243,902**	**95,684**	**47,401**
2015	Traditional	236,764	86,924	26,809
	Commercial	28,198	9,646	3,513
	Total	**264,962**	**96,570**	**30,322**
% change		***8.63***	***0.93***	***-36.03***

Table 5.1.6 illustrates sheep population, births and deaths. Unlike cattle and goats, the sheep population realised an increase between the 2004 and the 2015 agricultural censuses, from 243,902 to 264,962. Under the review period, sheep registered a slight increase in births (0.9 percent) and a marked decrease in deaths (36.0 percent).

5.2 Crop Statistics

Table 5.2.1: Holdings Planted: Sorghum, Maize, Pulses, Millet, Sunflower and Groundnuts

	Holdings planted by type of crop					
	Sorghum	Maize	Beans	Millet	Sunflower	Groundnuts
SOUTHERN	876	5,390	4,280	27	17	119
SOUTH EAST	230	585	529	-	8	12
KWENENG	1,997	5,943	7,232	45	80	592
KGATLENG	611	1,374	1,617	102	47	60
CENTRAL	10,265	12,177	16,084	3,444	1,066	3,997
NORTH EAST	2,610	2,593	3,736	1,545	187	1,477
NGAMILAND	1,516	2,715	2,653	1,342	22	824
GHANTSI	14	177	169	19	-	6
KGALAGADI	73	230	239	2	8	29
TOTAL Traditional	***18,192***	***31,184***	***36,539***	***6,526***	***1,435***	***7,116***
TOTAL Commercial	***49***	***59***	***54***	***2***	***7***	***1***
TOTAL	**18,241**	**31,243**	**36,593**	**6,528**	**1,442**	**7,117**

Table 5.2.1 shows the number of holdings by district planted for sorghum, maize, beans/pulses, groundnuts and sunflower. The figures show that beans was the dominant crop in the holdings planted. Central District had the highest number of holdings planted than any other districts, while Ghantsi District had the lowest number of holdings planted. Ghantsi and Kgalagadi Districts usually have lowest holdings planted due to poor soils and unfavourable climatic conditions for crops.

Table 5.2.2: Area Planted by Crop (Hectares) (Sorghum, Maize, Beans/Pulses, Millet, Sunflower and Groundnuts)

	Area planted (hectares) by type of crop					
	Sorghum	Maize	Beans	Millet	Sunflower	Groundnuts
SOUTHERN	3,160	25,989	6,265	31	30	97
SOUTH EAST	309	821	241	0	8	2
KWENENG	2,780	12,772	4,529	25	73	218
KGATLENG	960	2,624	974	60	28	26
CENTRAL	12,342	16,154	8,746	2986	396	1367
NORTH EAST	1,729	1,843	884	734	37	264
NGAMILAND	1,888	2,533	1,162	1118	13	162
GHANTSI	9	184	82	14	0	1
KGALAGADI	34	192	169	1	1	7
TOTAL Traditional	***23,211***	***63,112***	***23,052***	***4,969***	***586***	***2,144***
TOTAL Commercial	***18,464***	***3,326***	***9,810***	***93***	***1,385***	***5***
TOTAL	**41,675**	**66,438**	**32,862**	**5,062**	**1,971**	**2,149**

Table 5.2.2 illustrates area planted by crop (sorghum, maize, millet, cow peas, sunflower and groundnuts). Out of the total area planted nationally, the largest proportion was allocated to maize (66,438 ha).

Table 5.2.3: Area Planted (hectares) by type of crop between 2004 and 2015 censuses

		Sorghum	Maize	Beans	Millet	Sunflower	Groundnuts
2004	Traditional	48,454	63,214	15,284	7,113	195	1,093
	Commercial	11,835	615	535	-	2,756	-
	Total	**60,289**	**63,829**	**15,819**	**7,113**	**2,951**	**1,093**
2015	Traditional	23,211	63,112	23,052	4,969	586	2,144
	Commercial	18,464	3,326	9,810	93	1,385	5
	Total	**41,675**	**66,438**	**32,862**	**5,062**	**1,971**	**2,149**
% change		**-30.87**	**4.09**	**107.74**	**-28.84**	**-33.21**	**96.61**

Table 5.2.4: Area Harvested By Crop (Hectares) (Sorghum, Maize, Pulses, Millet, Sunflower and Groundnuts)

	Area Harvested (hectares) by type of crop					
	Sorghum	**Maize**	**Beans**	**Millet**	**Sunflower**	**Groundnuts**
SOUTHERN	71	778	755	0	0	12
SOUTH EAST	96	74	133	0	3	2
KWENENG	323	1,187	1,298	7	12	105
KGATLENG	64	105	89	4	8	3
CENTRAL	3,649	3,800	4,340	2399	396	1367
NORTH EAST	1,036	669	736	548	78	264
NGAMILAND	155	223	187	97	5	16
GHANTSI	1	19	32	4	0	2
KGALAGADI	16	33	79	0	0	7
TOTAL Traditional	***5,411***	***6,888***	***7,649***	***3,059***	***502***	***1,778***
TOTAL Commercial	***17,938***	***1,539***	***9,596***	***93***	***1,385***	***5***
TOTAL	**23,349**	**8,427**	**17,245**	**3,152**	**1,887**	**1,783**

Table 5.2.4 shows area harvested by crop (sorghum, maize, millet, beans/pulses, sunflower and groundnuts. Of the total area harvested, the highest was recorded for sorghum (23,349 ha) than for any other crop. The commercial sector by far has the highest area harvested for sorghum (17,938 ha) compared to the traditional sector (5,411). On the other hand, the traditional sector recorded more area harvested for maize (6,888 ha) than the commercial sector (1,539 ha).

Under the traditional sector, the largest area harvested was recorded for beans (7,649 ha) followed by maize (6,888 ha).

Table 5.2.5: Area Harvested (hectares) by Type of Crop between 2004 and 2015 Agricultural Censuses

		Sorghum	Maize	Beans	Millet	Sunflower	Groundnuts
2004	Traditional	38,736	42,804	7,702	6,423	115	558
	Commercial	11,832	586	428	-	2,741	-
	Total	**50,568**	**43,390**	**8,130**	**6,423**	**2,856**	**558**
2015	Traditional	5,411	6,888	7,649	3,059	502	1,778
	Commercial	17,938	1,539	9,596	93	1,385	5
	Total	**23,349**	**8,427**	**17,245**	**3,152**	**1,887**	**1,783**
% change		***-53.83***	***-80.58***	***112.12***	***-50.93***	***-33.93***	***219.53***

Table 5.2.5 shows area harvested for sorghum, maize, millet, beans/pulses, groundnuts and sunflower during the 2004 and 2015 agricultural censuses. According to the table, there is a significant decrease in area harvested for all crops except for beans and groundnuts which, on the reverse, showed a substantial increase in area harvested.

Table 5.2.6: Total Production by Crop (Metric Tons) (Sorghum, Maize, Pulses, Millet, Sunflower and Groundnuts)

	Total Production (metric tonnes) by type of crop					
	Sorghum	**Maize**	**Beans**	**Millet**	**Sunflower**	**Groundnuts**
SOUTHERN	71	783	755	-	-	12
SOUTH EAST	96	74	133	-	3	2
KWENENG	323	1,185	1,298	7	12	105
KGATLENG	64	105	89	4	8	3
CENTRAL	3,649	3,801	4,328	2,399	398	1,508
NORTH EAST	1,036	669	736	548	78	394
NGAMILAND	155	223	189	97	5	16
GHANTSI	1	19	32	4	-	2
KGALAGADI	16	33	79	-	-	8
TOTAL Traditional	***5,411***	***6,892***	***7,639***	***3,059***	***504***	***2,050***
TOTAL Commercial	***33,581***	***2,375***	***6,391***	***42***	***1,320***	***-***
TOTAL	**38,992**	**9,267**	**14,030**	**3,101**	**1,824**	**2,050**

Table 5.2.6 shows total production for sorghum, maize, millet, cow peas, groundnuts and sunflower. Sorghum recorded the highest production at the aggregate level (38,992 metric tons) followed by beans at 14,030 metric tons.

Table 5.2.7: Total Production (Metric Tonnes) by type of crop between 2004 and 2015 censuses

		Sorghum	Maize	Beans	Millet	Sunflower	Groundnuts
2004	Traditional	10,581	7,223	2,049	2,697	22	270
	Commercial	1,175	313	128	-	465	-
	Total	**11,756**	**7,536**	**2,177**	**2,697**	**487**	**270**
2015	Traditional	5,411	6,892	7,639	3,059	504	2,050
	Commercial	33,581	2,375	6,391	42	1,320	2
	Total	**38,992**	**9,267**	**14,030**	**3,101**	**1,824**	**2,052**
% change		**231.68**	**22.97**	**544.45**	**14.98**	**274.54**	**660.02**

Table 5.2.7 illustrates total production for sorghum, maize, millet, cowpeas, groundnuts and sunflower for the 2004 and 2015 agricultural censuses. Production improved for all crops during the review period. Production of ground nuts, beans and sorghum increased remarkably by 660%, 544% and 231% respectively during the 2015 agricultural season compared to the 2004 season.

Table 5.2.8: Yield Per Hectare Planted (Kg/HA) By Crop (Sorghum, Maize, Beans/Pulses, Millet, Groundnuts and sunflower)

	Yield per hectare planted (Kg/ha) by type of crop					
	Sorghum	**Maize**	**Beans**	**Millet**	**Sunflower**	**Groundnuts**
SOUTHERN	22	30	121	-	-	124
SOUTH EAST	311	90	552	-	375	1,000
KWENENG	116	93	287	280	164	482
KGATLENG	67	40	91	67	286	115
CENTRAL	296	235	495	803	1,005	1,103
NORTH EAST	599	363	833	747	2,108	1,492
NGAMILAND	82	88	163	87	385	99
GHANTSI	111	103	390	286	-	2,000
KGALAGADI	471	172	467	-	-	1,143
TOTAL Traditional	233	109	331	616	860	956
TOTAL Commercial	1819	714	651	452	953	410
TOTAL	936	139	427	613	925	955

Table 5.2.8 shows yield per hectare planted (kg/ha) by crop and region. The commercial sector recorded high yields per hectare compared to the traditional sector in all the crops except for millet and groundnuts.

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