

Table 5: Ruminant, poultry and pig meat for consumption (includes live animal imports), 2009

Product	Calculations	Total consumption (mt)	Per Capita (kg/year)
Beef	Small holders/pastoralists/imports 2,839,677 head * 125 kg/head	354,960	9.42
	Ranches 36,000 * 240 kg/head	8,640	
Total beef		363,600	
Beef Offal	25% of meat production	90,900	
Total beef and offal		454,500	11.77
Sheep and goat meat	6,061,509 * 15 kg/head	90,923	2.35
Sheep and goat offal	25% of meat production	22,731	
Total sheep and goat meat and offal		113,654	2.94
Camel meat	50,508 * 330 kg/head	16,670	.43
Camel offal	25% of meat production	4,167	
Total Camel meat and offal		20,837	.54
Ruminant total, meat and offal		588,991	15.25
Pig meat	167,344 head * 60 kg dressed weight	10,041	.26
Chicken meat	Indigenous and culled commercial layers 1.3 kg dressed weight; broilers 1.5 kg dressed weight	20,889	.54

The revised milk production estimates are:

Cattle	5.788 billion litres – 76% of national total
Camels	0.553 billion litres – 7% of national total
Sheep and goats	1.293 billion litres – 17% of national total
Total milk production	7.634 billion litres

Using the 2009 census population estimate of 38,610,097 people, per capita fluid milk available for consumption or for conversion into processed dairy products for consumption is 198 litres per person per year. This figure is approximately ten times higher than the food balance sheet estimate of milk supply at 17.3 kg and butter/ghee at 0.1 kg per caput per year.

In sum, our estimates of domestic meat availability broadly agree with official figures, but our estimates for the availability of milk and dairy products are much higher than official figures.

In comparison to official assessments, our estimates of livestock production follow a similar pattern: The new estimates roughly agree with official small stock slaughter figures, exceed official estimates of cattle slaughters, but are about twenty times larger than official milk production figures. Since milk is about four times more important than meat in terms of its contribution to agricultural GDP, any inaccuracies in the calculation of milk output have a proportionately large impact on the estimated performance of the entire livestock sector. Without better documentation of the value and volume of milk production and consumption, official statistics on the livestock sector lack authority and credibility.

Recommendations

- Despite the data limitations discussed in the full report, KNBS should consider adopting as standard practice the production approach to estimating livestock GDP that is presented in this briefing paper.

- The Ministry of Livestock Development (MOLD) currently has little authoritative, quantified, national-level data on Kenya's most valuable livestock commodity – milk – and the Ministry should seek to remedy this deficiency. Dairy production and marketing are topics on which numerous Kenyans have conducted sophisticated and precise scientific research, and there is a large pool of national talent to engage in improving the Ministry's field monitoring, data analysis, and reporting skills. Until remedial action has been taken, the Ministry's lack of authoritative and comprehensive data impairs its ability to contribute to evidence-based discussions of national dairy policy.
- With technical support from interested research institutes and Kenyan universities, MOLD and KNBS should undertake a national survey of the value of animal power to the Kenyan economy and of the role of animal power in sustaining both rural and urban livelihoods. This survey should include all forms of animal traction, transport and haulage by all species of working animals – cattle, equines and camels – in rural and urban areas and in all economic sectors – agriculture, manufacturing and services. As well as the commercial provision of animal power, the survey should assess the monetary value of the services that working animals directly provide for their owners.
- The information on livestock numbers provided by the 2009 census revealed the limitations of the procedures used by the Ministry of Livestock Development (MOLD) to estimate livestock populations, a weakness that scientific researchers had recognized but could not conclusively demonstrate. Livestock researchers have noted the 'need for better estimation methods' for enumerating livestock populations. The next human population census may not contain questions on livestock. It is essential that MOLD develop affordable survey techniques to reliably estimate the country's livestock numbers, or subcontract this responsibility to a qualified national research institute or university.

Note: Data sources that substantiate the calculations in this briefing paper are given in the original report: The Contribution of Livestock to the Kenyan Economy (IGAD LPI Working Paper No. 03 – 11) 2011, by Roy Behnke and David Muthami

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POLICY BRIEF SERIES

IGAD Center for Pastoral Areas & Livestock Development (ICPALD)

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The Contribution of Livestock to the Kenyan Economy

Livestock specialists frequently argue that livestock production is underrepresented in the GDP estimates of African nations. With respect to Kenya this argument has been confirmed.

IGAD (Intergovernmental Authority on Development) and the Kenyan National Bureau of Statistics (KNBS) completed in 2011 a joint review of the importance of livestock to the Kenyan economy. The study (IGAD LPI Working Paper No. 03-11) demonstrated that livestock's contribution to Kenyan agricultural gross domestic product (GDP) was more than two and a half times larger than the official estimate for 2009, the most recent year for which there was complete data. This increase over official estimates means that the livestock contribution to agricultural GDP was only slightly less than that from crops and horticulture, about \$4.54 billion US dollars for livestock in 2009 versus \$5.25 billion US dollars for arable agriculture.

Kenya's livestock were underappreciated because the size of the national herd was not known, and no attempt to enumerate it had been made for decades. Estimates of the livestock sector were also based on official sales records, which missed production that was traded informally or directly consumed by livestock owning households. If these shortcomings are remedied, the importance of livestock takes on new economic significance. Agriculture and forestry are by far Kenya's most important economic sector in terms of domestic production, and it would now appear that livestock provide about 45% of the output from this sector.

This revised estimate has at least two far-reaching implications. First, government should give more attention to accurately monitoring the livestock sector and, secondly, that government should now place a higher priority on livestock and livestock producers in designing future agricultural policies.

The estimation of agricultural GDP in Kenya

The Kenya National Bureau of Statistics (KNBS), which is responsible for calculating Kenya's national accounts, uses a commodity flow approach to estimating agricultural GDP. According to this method, calculations of the value of marketed agricultural production are based on the value and quantity of officially recorded agricultural sales. Agriculture output that is consumed by farmers or pastoralists or traded informally is estimated through surveys, and this production is assumed to grow at the same rate as that which is officially sold. In short, the level of overall production is inferred from that portion of the total that is traded through official channels.

This approach may work well for cash crops such as pyrethrum,

sisal, and sugar cane, or for heavily exported crops such as coffee, tea, or cut flowers – all of which economically important for Kenya. These crops are unlikely to be sold or consumed in large quantities outside of formal channels and marketed output will accurately reflect total output.

The commodity approach has limitations, however, when applied to livestock and livestock products, which in Kenya have important subsistence uses for large numbers of rural producers. In 2011, surveys to estimate subsistence production were out of date (from 1977), excluded pastoralists, and were based on livestock sales and slaughter statistics that did not include small markets or cover North Eastern Province.

These considerations suggested the need to cross-check official figures using techniques that estimate the amount of output produced on average by different kinds of livestock. The wealth of scientific research that has been carried out on livestock production made accurate estimates of this kind feasible for Kenya. The opportunity to carry out these calculations was also provided by a comprehensive enumeration of Kenya's livestock population, based on questions attached to the human population census of 2009 on the number of livestock kept by households. The new census data revealed that the old estimates of ruminant livestock populations for the last decade were roughly half of the new census figures for camel, sheep and goat populations, and about three quarters of the census estimate for cattle (Table 1).

Table 1: Kenyan livestock populations – old and new estimates

	National MLD 2008 estimates	National 2009 population census	Percentage underestimate
Cattle	13,522,500	17,467,774	23
Sheep	9,907,300	17,129,606	42
Goats	14,478,300	27,740,153	48
Camels	1,132,500	2,971,111	62
Donkeys	786,800	1,832,519	57
Pigs	330,020	334,689	1
Bee hives	-	1,842,496	-
Chicken indigenous		25,756,487	
Chicken commercial	29,615,000	6,071,042	7