

EFFECT OF PERIOD ON LIVE-WEIGHT AND PRICE OF BULLS IN SELECTED LIVESTOCK MARKETS OF KANO AND JIGAWA STATES, NIGERIA

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Abstract

The study was conducted to determine the influence of Live-weight (LW) and period on price of bulls in selected livestock markets (Gujungu and Maigutari in Jigawa State; Dambatta and Wudilin Kano State). 50 structured questionnaires were administered weekly through visits to the markets, which lasted from May, 2008 to May, 2009. A total of 10,473 bulls (50 per week per market) were randomly sampled. Period, LW and price of the sampled animals were determined in each market. Data collected were fitted in a nested set of completely randomised design. Results showed that Bulls sold during the fifth week (29th-31st day of the month) weight significantly higher than those sold during other weeks of the month, however, the price of ₦208.58/Kg LW obtained for bulls sold during the first week was higher than that sold during other weeks of the month. LW of bulls during late rainy season (337.21 ± 2.02 Kg) was significantly higher ($p < 0.001$) than during other seasons. It was concluded that cattle price were low at the markets especially during second week of the month and early dry season. It is recommended that cattle marketing intervention programme should be re-strengthened to boost farmers income be part of strategies for improved livestock production in the study area.

Key words; Season, live-weight, price, cattle and market

Introduction

The contribution of the agricultural sector to the Nation's economy in the pre and post-colonial era cannot be over emphasized. Oluwafemi *et al.* (2001) opined that animal agriculture is an indispensable pre-requisite for the sustainability of human development due to its role in food provision, employment and other services. In Nigeria, a high percentage of the population earns its living from agriculture and agriculture related activities. Livestock provides an important source of protein in the diet of Nigerians, which currently is estimated at 7.19 g/head/day (FAO, 2010) which is much lower than the recommended 35g/head/day (FAO, 2008).

The Nigerian livestock sector is dominated by Fulani pastoralists, who use mostly traditional forms of production. Techniques of feeding, management, health care, medication and marketing are obtained from local information passed from generations to generations with poor record keeping (Ademosun, 1988). Livestock recourses in Nigeria include 16,293,200 cattle, 33,874,300 sheep, 53,800,400 goats, 18,800 camels and 175,000,000 chickens (FAO, 2010). The country's cattle territory is essentially in the Sudan Savannah, accommodating more than 90% of the cattle and three quarter of the small ruminant populations. The productivity of

livestock in the pastoral system is low (Adegbola, 1982), varying from one region to the other and between years (Behnke *et al.*, 1994). The proportion of cattle has been reduced in favour of small ruminants and camels, but overall, the equilibrium between present numbers and available forage resources remains precarious. The survey was carried out to identify the effect of season and LW on price of cattle in selected livestock markets of Kano and Jigawa states, Nigeria.

Materials and Methods

The Study Area

Kano and Jigawa states cover a combined area of 43,000 km² in the Sudan savannah vegetation zone of northern Nigeria. The area is characterized by a long (October -- April), hot dry season (Olofin, 1987) and a short (May-September), rainy season with an average annual rainfall ranging from 787 to 960 mm and mean annual temperature that ranged from 21 to 39°C, respectively. Jigawa State lies between latitudes 11°35' and 13°00' East and longitude 8°00' and 10°35' North. The state is bordered to the West by Kano State, to the East, Bauchi and Yobe states and to the North by the Republic of Niger (Anonymous, 2003). Kano State lies between longitude 9°30' and 12°30' North and Latitude 9°30' and 8°42' East. Kano State borders Jigawa State by North and South,

North-West by Katsina State, Kaduna State by South-West while Bauchi State by South East.

The breeds of cattle that are predominantly found in this area are White Fulani (Bunaji), SokotoGudali (Bokoloji), Red Bororo (Rahaji), Adamawa Gudali and Kuri (Blench, 1999).

The study was conducted in Gujungu and Maigatari livestock markets of JigawaState which operate on Sundays and Thursdays, respectively. Two livestock markets in Kano State selected includedDambatta that operates every Sunday and Wudil that operates on Fridays.

Data Collection

Data on bulls'age, sex, LW, season and price were collected on personal visit to the four (4) selected markets, weekly for a period lasting from May 16, 2008 to May 10, 2009. In each visit, information on age (dentition), sex (physical reproductive organs),LW (weight band), season (early rain-ERS, late rain-LRS, early dry-EDS and late dry-LDS which starts from April to June, July to September, October to December and January to March, respectively) and price were obtained by trained enumerators with the aid of traditional middle men(*SarkinTurke*).Price of bulls were recorded as the accepted price negotiated between the buyers and middle men, which was verified by *SarkinTurke* (Barnarjee, 2005).

Experimental Design and Data analysis

The experiment was laid in a 4x5X4 nested design. The factors were 4 markets (Wudil, Dambatta, Maigatari and Gujungu), 5 weeks and 4 seasons. Significantly difference means were separated Using Duncan Multiple Range Test (DMRT) and Least Significant difference where appropriate (Gomez and Gomez, 1989).

Results and Discussion

The effect of week of the month on mean live weight and prices of bulls are shown in table 1. Bulls sold during the fifth week (29th-31st day of the month) weighed (352.13Kg) significantly higher than those sold during the other weeks(first, second, third and fourth as 311.18Kg, 306.07Kg, 329.60Kg and 330.95Kg, respectively) of the month. This could be

attributed to farmers' decision of keeping their best stock for the end of the month sales, when salary and wage earners usually visit the markets. However, the price of N208.58/kgLW obtained for bulls sold during the first week was higher than that sold during other weeks (first, second, third and fourth as N 207.93/kgLW, N 206.08/kgLW, N 208.10/kgLW and N 203.78/kgLW).Lowest price/kgLW (N 203.78)was recorded during the fifth week of the month,at this period, bulls supply at the markets tends to be high in anticipation of patronage by salary and wage earners, which may glut the markets and tend to reduce price. According to Adamu (1982) livestock marketing is a complex activity involving several categories of players, such as sellers, buyers, transporters and commission agents.Adamu and Ndako-Ganna (2003) established that celebrations, fuel price and transportation cost contributes significantly to livestock price in Lapai and Lambata markets of Niger State.

Table2 shows the effect of season on mean live weigh and prices of bulls in the study area. The LW of 337.21kg obtained during the LRS was significantly higher than that obtained during the remaining seasons (ERS, EDS and LDS as 329.22Kg, 298.48kg and 324.17Kg, respectively) which could be due to the fact that during this period, the animals might have adjusted to the type of feed available and most forages were at peak of nutrients profile,likewise diseases prevalence is low, stress due to constant rains and poor house cattle characteristics of extensive management has significantly reduced. This result is similar to the report of Yakubuet *al.* (2006) on small ruminants, which tends to gain weight during LRS in southeastern Bauchi State. The highest price of N69,967.35 was obtained during LDS and the lowest price of N 63,723:00 was obtained during the EDS.The lowest price was attributed to farmers behavior of disposing their stock to augment short fall in grains before next harvest. The rush to markets by farmers increase cattle supply which could reduce price, contrary to the report by Jabo and Muhammad (2009).

Table 1: Effect of Week of the month on Mean Live weight and Prices of Cattle in the study Area

Week of the Month	Mean					
	N	Weight (Kg)	± SE	Price(₦)	± SF,	Price (₦/ kg Live weight)
First (1 st -7 th day)	2430	311.18	2.25	64903.3	530.49	208.58
Second {8 th - 14 th day)	2350	306.07	2.2 1	63639.7	518.74	207.93
Third(15 th -21 st day)	2451	329.60	2.21	67924.9	523.48	206.08
Fourth(22 nd -28 th day]	2499	330.95	2.32	68870.5	523.29	208.10
Fifth((29 th - 31 st &day)	750	352.13	4.54	71756.6	1126.57	203 78
Level of Significance	***					
LSD	8.12					

Table 2: Effect of Season on Mean Live weight and prices of Bulls in the Study Area.

Season	Weight (Kg)	±SE	price (Naira)	±SE	Price (₦/kg Live weight)
Early rain (Apr - June)	329.22	2.12	67,371.90	579.46	204.6433
Late rain (Jul-Sep)	337.21	2.02	66,087.61	467.36	195.98
Early dry (Oct - Dec)	298.48	2.46	63,723.00	534.55	213.49
Late dry (Jan - Mar)	324.17	2.07	69,967.35	455.36	215.84
Level of Significance	***				
LSD	8.78				

Conclusion

Weight of bulls during late rainy season was significantly higher than during other seasons. Bull price were low at the markets especially during fifth week of the month and early dry season.

Recommendation

Cattle marketing intervention programme should be re-strengthened to boost farmers income be part of strategies for improved livestock production.

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