The Effect of Drought on the National Meat Supply

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BECAUSE of Nigeria's dependence on the neighbouring countries for a substantial supply of slaughter stock, any reasonable discussion on the effects of drought on the national meat supply must necessarily extend to these countries

Of the six Sahelian countries that are now experiencing the worst drought in living memory three namely, Niger, Chad and to a very limited extent Mali are of direct interest to Nigeria. In these three countries as is the case in Nigeria the majority of cattle are found in the hands of either nomads or semi-nomad tribesmen.

We are all aware of the conditions under which these cattle owners are forced to keep their cattle, a condition far from being conducive to either milk or meat production. These cattle owners must operate between two formidable barriers. In the rainy season they are forced to take their cattle as far into the drier areas as grass will grow. During the long dry season they are forced to penetrate the tsetse fly infested area to the south trying to avoid heavily infested area as much as possible. Thus they are forced to be nomadic in order to merely survive. In these long seasonal treks cattle are subjected to untold conditions of stress including periods of extremely low nutrition, lack of drinking water, high temperature, physical exhaustion and a host of diseases and parastic problems. I would like to point out here that the conditions described above relate to normal conditions unaffected by the drought under discussion.

It is well known that these tribesmen keep cattle primarily as a source of capital and to provide milk for personal consumption, and when there is a surplus for sale. Thus one could rightly say that these cattle owners subsist largely on milk and on other foods obtained through the sale of milk. Cattle are sold only to meet major expenditures the most common being the payment of taxes.

It is worth recognising the fact that it is through this more or less forced selling of cattle to raise enough money to pay tax or meet some other heavy expenditure that provides the beef eaten in Nigeria and in the other three countries who have a surplus is both eaten and exported. Thus the supply of cattle to the market has very little to do with demand, hence the seasonal fluctuation of supply, and with it the fluctuation in price. It would be wrong to conclude from this that the cattle owners are not are not conscious of the fluctuation in prices and thus do not take advantage of this. Indeed they do, but not to the extent of engaging in raising cattle primarily for sale. The response is by way of dividing their herds into two with one part representing the capital made up of breeding cows, heifers and young stock and with the other which represents the current account made up of mature bulls over and above the normal requirements for breeding.

In the good old days, it was not uncommon to find as many as one quarter or more of a herd made up of mature bulls (and to these cattle owners mature means 6-5 year olds). It is these that the cattle

owners sell during the tax season leaving the balance to be sold in times of high prices. In the case of the former the money goes straight to the tax collector while the latter is used to purchase young stock which are put back into the herd, thereby increasing the capital stock where the purchase are females, or replacing lost stock in the case of male purchases.

This fact coupled with the rather low calving rate associated with raising of

cattle under nomadic conditions account for the low percentage of females found in slaughter stock.

Based on limited survey results taken in 1963 a situation which remained pretty much the same up to about 1968, females accounted for an estimated 20% to 25% of the total slaughter cattle as table 1, drawn up in 1964 illustrates. Concurrently the slaughter of immature stock amounts to no more than 5%.

Table 1. Total Number of Slaughter Cattle in the Bukuru, Jos, Kaduna, Kano, Maiduguri, Potiskum, Zaria, Ibadan, and Lagos Markets

<i>Bulls</i>			<i>Cows</i>		
		80.08			19.92%
<i>Age</i>	<i>Number</i>	<i>Percentage</i>	<i>Age</i>	<i>Number</i>	<i>Percentage</i>
2	508	0.47%	2	22	0.09%
3	3,822	3.52%	3	890	3.30%
4	8,666	7.98%	4	1,362	2.04%
5	13,732	12.65%	5	2,319	5.58%
6	16,175	14.89%	6	3,423	12.67%
7	22,119	20.37%	7	5,705	21.12%
8	24,210	22.29%	8	7,009	25.94%
9	13,395	12.34%	9	3,802	14.07%
10	5,702	5.25%	10	2,263	8.38%
11	192	0.18%	11	216	0.80%
12	67	0.06%	12	2	0.01%
Total	108,588	100.00 %		27,016	100.00 %

Increasing prices and an obvious decline in the supply of slaughter cattle in 1969/70 prompted the Nigerian Livestock and Meat Authority to initiate a classification and grading system for slaughter cattle on a national basis. The result from this exercise up to the beginning of the drought in 1972 revealed that females and immature stock made up about 40% and 15% respectively of all slaughter cattle. Even at that time there were strong indications that what was happening in Nigeria was also happening in both Chad and Niger and almost certainly also in Mali, countries which directly or indirectly supply at least 25% of Nigeria's annual slaughter cattle. At that time it was

thought that the full impact of this untimely slaughter would not be felt until around 1975, when such animals and/or their offspring would otherwise be reaching the market. Little was it known that the drought was coming to worsen the situation.

Table 2, compiled from slaughter data collected in some main markets, gives an idea of the situation in 1970.

Obviously this circumstance was beyond reasonable culling levels since at the height of the regular culling season 10 to 20% of slaughtered females were found to be pregnant. Faced with this situation the Nigerian Livestock and Meat Authority was obliged to institute

TABLE 2 Slaughter Cattle Classification and Grading Results — 1970

Location	Breeding								Sex		Age			Grade				
	BU	RA	WA ^a	SG	KU	AD	AG	DI	Male	Female	IM	M	A	H	A	L		Total
Total	8764	8473	3066	524	707	—	—	—	13138	8396	4755	10612	6164	7138	8285	6111	21534	24.6
%	40.7	39.4	14.2	2.4	3.3	—	—	—	60.9	39.1	22.1	49.3	28.6	33.1	38.5	28.4	100.0	—
Total	3631	12411	15120	7000	4967	2361	—	104	27678	20916	4751	10424	33359	50489	28490	9612	48594	55.8
%	7.5	31.7	31.1	14.4	10.2	4.8	—	0.3	26.9	43.1	9.8	21.5	68.7	21.6	2.86	19.8	100.0	—
Total	—	1219	—	2169	—	3239	—	—	3770	2856	2441	3017	1168	5393	1050	183	6626	7.5
%		18.4	—	32.7	—	48.9	—	—	56.9	43.1	36.8	42.6	17.6	81.4	15.8	2.8	100.0	—
Total	—	9	7050	—	405	—	1572	—	3607	5429	773	7610	653	234	4533	4269	9036	10.3
%	—	0.1	78.0	—	4.5	—	17.4	—	39.9	60.1	8.5	84.2	7.3	2.5	50.2	47.2	100.0	—
Total	975	642	183	—	132	—	42	—	606	1368	237	1055	682	1030	568	376	1974	2.2
%	49.3	32.6	9.3	—	6.7	—	2.1	—	30.7	69.3	12.0	53.5	34.5	52.2	28.8	19.0	100.0	
Grand Total	13370	35753	25419	9693	6211	5642	1572	104	48799	38965	12957	32751	42056	24284	42926	20554	87764	
%	15.2	29.3	29.0	11.0	7.1	6.4	1.8	0.1	55.7	44.3	14.8	37.3	47.9	27.7	48.9	23.4	100.0	100.0

sociological as well as other studies with a view to determining why immature stock and breeding females were being sacrificed and what was happening to the proceeds. The findings of the studies revealed that the cattle owners were merely responding to changing circumstances just as their fathers and grandfathers, exposed as the nomads have been through the centuries to natural hazards had had to do. As to what was happening to the proceeds from the accelerated and indiscriminate sales the studies revealed that the cattle owners were just as vulnerable to the forces of inflation if not more so than other classes of people.

Under normal circumstances one would expect the liquidation of the capital stock through the slaughter of females, a large proportion of which are pregnant, would result in the reduction of available slaughter stock, but no reduction of slaughter stock was detected. In fact in quite a number of centres an increase of slaughter stock was even registered. Thus while up to the late sixties the bulk of the slaughter stock was made up of mature and consequently heavier animals, the early seventies witnessed a substantial

decline in the mature cattle and their replacement by immature and female cattle with the consequent reduction in total meat supply which is faced with an ever increasing demand.

In the opinion of some authorities Nigeria's effective calving rate can not be more than 50-55% and this places the local cattle industry in the subsistence level category as table 3 shows, yet the present percentage offtake of females would only be safe in a highly developed cattle industry with a calving rate of 90%.

Having come this far, we need to remind ourselves that the foregoing refers solely to the situation as existed before the drought.

Now to the actual drought and its effect on national meat supply.

Background

It is reported that the FAO/WFP Early Warning System gave the first intimation of critical crop failure in the countries of the Sahel in September 1972. Coincidentally, it was also in this same month that the Nigerian Livestock and Meat Authority sent out its team of investigators to conduct a tour of the four States bordering the Sahel Region,

Table 3. Theoretical safe offtake from a constant sized Cattle population at different stages of development

Relative stage of development	Effective calving rate %	Total herd offtake %	Offtake composition, %					
			Male			Female		
			Total%	Young%	Old%	Total%	Young%	Old%
Highly Developed	90+	38	60	58	2	40	30	10
	85	30	64	56	8	36	20	16
Commercially Developed	80	26	68	54	14	32	15	17
	75	23	70	45	25	30	10	20
	70	20	72	30	42	28	8	20
	65	18	74	20	54	26	6	20
	60	15	76	15	61	24	4	20
Subsistence Level	55	12	78	10	68	22	2	20
	50	9	80	5	75	20	1	19
	40	5	90	0	90	10	0	10

following reports of shortage of rainfall that year with the consequent adverse effects on grazing and water supply for livestock.

As the crisis set in the Governments concerned took action to alleviate the situation and requested external aid donors and the WFP for food shipments. In January 1973, at the request of the inter-country Liptake-Gourma authority, two FAO livestock experts carried out a mission to assess the magnitude of the damage to Livestock in Mali, Niger and Upper Volta. A field task force was subsequently established to assist the Governments in developing the action required.

The ECA conference of Ministers at its meeting held in Accra 19th-23rd February, 1973 adopted a resolution recommending that the Sahel Governments declare the zone a disaster area. This was done at a meeting of the Ministers concerned of Mali, Niger, Senegal, Mauritania and Upper Volta at Ouagadougou, 23rd-26th March, 1973.

The situation report as at this time in the three countries was as follows:

Niger. The Livestock populations in Niger reported for 1971-72 were:

Cattle	— 4,400,000
Sheep	— 2,800,000
Goats	— 6,200,000
Camels	— 410,000
Horses, Mules	— 550,000

The human population for 1971-72 was about four million.

According to the OSRO report of May 1973, cattle population had been reduced but estimates of numbers which had died or moved out of the area were not available. It was also reported that cattle movements were erratic looking for water and feed but generally towards the South and into Nigeria.

This movement could not but contribute to the steady supply of slaughter cattle.

In Chad, the situation was no better.

The Livestock populations in Chad for 1971-72 were reported as follows:

Cattle	— 7,220,000
Sheep	— 1,500,000
Goats	— 2,700,000
Camels	— 670,000
Horses/Mules	— 722,000

The human population was about 3.5 million.

According to the June 1973 report of O.S.R.O. of the estimated normal cattle population in the Sahelian Zone of Chad of about 2.5 million about 1,350,000 had moved into the Southern Zone of the country and on into C.A.R. The same type of movement was reported to have occurred with sheep and goats. Reported death rates for cattle remaining in disaster areas ranged from 30% in some areas to as high as 85% in others.

Reports received since then have indicated a deteriorated situation in both Niger and Chad, but in spite of this and probably because of this, the level of imports of cattle from these two countries has been maintained.

Mali. It is claimed that about 16,000 head of cattle are imported into Nigeria from Mali. Our records have not confirmed this although it is known as a fact that some thousands of cattle are exported to Niger each year.

Because of this relationship vis-a-vis that that is between Nigeria and Niger, Nigeria should be concerned with the situation in Mali.

The Livestock populations in Mali reported for 1971-72 were:

Cattle	— 2,500,000
Sheep	— 5,900,000
Goats	— 2,650,000
Camels	— 215,000
Horses/Mules	— 634,000

The human population was put at about five million.

It was reported by O.S.R.O. that as a result of the drought many of the cattle and transhumant owners were compelled to migrate south through Upper Volta and on into Ivory Coast and Ghana but estimates of actual numbers remaining in Mali were not known.

Nigeria. The situation in Nigeria at about the same period was as follows:

Livestock population at about 1971-72 was estimated as follows:

Cattle	— 9,600,000
Sheep	— 6,000,000
Goats	— 17,000,000
Camels	— 10,000
Poultry	— 60,000,000
Horses	— 300,000
Donkeys	— 1,500,000
Pigs	— 300,000

Human population was conservatively put at 60 million.

On the basis of the above plus the imports from Niger and Chad per capital meat consumption has been calculated at around 6kg. compared with 17kg., 13kg., 15kg. for Niger, Cameroon and Chad, respectively.

With the onset of the drought in 1972 things suddenly changed for the worse. More and more females and immature animals continued to appear in the markets. And as a result of the serious drought many of the cattle now were mere skeletons hardly able to get up. Some were so poor that they were being sold for as low as one to two naira, thus compelling the owners to sell several at a time in order

to raise enough money on which to eke a meagre living. The cattle owners have suddenly found themselves without milk and were thus compelled to dispose of their capital stock. There were several stories of suicides by similar tribes in Niger and Chad.

This period also witnessed an unpresidential slaughter of camels in some abattoirs in the North and clandestine slaughter of donkeys in many parts of the country. All these were in an effort of keep pace with the increasing demand.

This year's drought has accentuated the position still further. Survey carried out by officers of the Authority have reported of wholesale of herds complete with cows pregnant or otherwise, calves, and mature bulls. This practice is not carried out in order to raise money but is brought about by lost hope of ever seeing the cattle through to the next rainy season. So instead of facing an uncertain future some of the cattle owners with the memories of the tragic events of last dry season still ringing clearly in their ears, are choosing to play safe by selling everything bag and baggage. So while the drought rages and uncertainties for the future remain, the nation can tragically continue to count on getting a steady supply of slaughter cattle. Thus the real problem is expected to begin with the cessation of the drought through the years following it.

To give a rough idea of the tremendous problems facing the nation, one needs only to quote from the Food Balance Sheet published by the Federal Department of Agriculture, which page 53 has this to say: ".....For large animal production (beef, cattle, goats and sheep) the needed increases in supplies in 1975, 1980 and 1985 over and above 1968/69

supplies should be 54, 99.6 and 100.0% respectively".

It is worth noting that these estimates were made before anything was known about the drought that was soon to emerge almost from nowhere.

The foregoing pages have tended to paint a rather gloomy picture, but unfortunately this is the stark reality. The question then arises whether, in fact it will be possible to ever meet the increasing demand for beef in Nigeria except by increasing imports. To start with, the question of increasing imports should be ruled out. The whole world is undergoing a shortage of beef and the forecast is that this will continue. So there is very little prospect of getting meat from places like Argentina, New Zealand or Australia. Turning to our traditional suppliers it is to be expected that these countries would devote the first few years following the drought in restructuring their livestock industry through a program of rebuilding the national herds and this

demand for meat will make it highly unlikely for them to increase their cattle exports.

The future looks bleak indeed but not hopeless. I think it will be possible to increase the national meat supply but *not*, without substantially changing the entire beef cattle production and marketing structure. Given the resources for beef production that are available in Nigeria it should be possible to become relatively, if not entirely self-sufficient. The several constraints that provide barriers to increased beef production have been identified and no doubt several more will be identified in the course of attempting to remove those that have already been identified. I have neither the time here nor the knowledge to provide answers to all the problems that require attention.

If there is a panacea or a quick easy way to remove these constraints, no one has yet found it, at least not to my knowledge.