Report on the Effect of Drought Condition on Livestock Production in North Western State

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General Introduction

THE North Western State of Nigeria is situated generally between longitudes 3° and 8° East of Greenwich 0° Meridian and between latitudes 9° to 14° North of the Equator. This geographical position places the state in a variety of Vegetational zones ranging from the regions bordering the rain forest areas of the South, Northwards through thick Savannah, open Savannah to open semi-desert areas on the northern borders. Generally speaking all areas above the 12th parallel northwards are susceptible to drought conditions of varying degrees every year. This area also contains the bulk of the livestock population which annually results in varying degrees of overgrazing in the available grazing areas which are limited to the few river valleys. The annual rainfall varies between 35" to 40" in the southern reaches to between 15" to 25" in the northern reaches of the state. The southern areas

also generally lie within the tsetse fly belt and consequently, although this area contains adequate grazing most of the year round, it is hazardous to livestock during most times of the year. In the height of the dry season however large numbers of livestock usually migrate to the southern parts for grazing in spite of the risks from trypanosomiasis.

Livestock Distribution

The present development plan for Livestock and Veterinary Services for the state was based on the report by the Special Duties Officer's Committee on the Distribution of Assets and Liabilities of the former Government of Northern Region which was largely based on vaccination figures compiled during J.P. 15 Project for Rinderpest Campaign, 1963-66. Comparative Livestock figures from this report are given for the Northern States in Tables 1 and 2.

TABLE 1
Livestock units in the Northern States

State	Livestock units (a)	Percentages of total livestock units	Density per sq. mile	Weighted ratio of livestock units (b)
North Central	1,024,642	10.9	38	5
Kano	1,164,384	12.3	70	6
North Eastern	4,006,269	42.4	38	21
Benue-Plateau	920,524	9.8	23	6
C/West (Kwara)	161,606	1.6	6	1
North Western	2,161,912	23.0	33	11
TOTAL	9,439,337			

(a) each unit represents 1 head of Cattle: 7 sheep: 2 goats, ratio being based on size/weight and degree of service attention involved.

(b) allowing for administrative difficulties e.g. of less density and scattered herds.

It is worthy to note that the only Official Records available for Livestock populations are from Annual Jangali Tax figures obtained from Local Authorities. For many well known reasons connected with administrative defects in Local Authority assessments we know that Jangali figures are a gross under-estimation and most likely represent only about 1/3 of the actual livestock population. Livestock populations from Jangali figures for the year 1971/72 by divisions and annual comparative figures from 1968/69 to 1971/72 are shown in tables 3 and 4. The constant tendency of the comparative figures is well illustrated for especially cattle which are the items of taxation.

From these figures estimated projected

correct livestock figures for North Western State at the moment are as follows

Cattle	— 2,500,000
Sheep	— 1,500,000
Goats	— 4,100,000
Horses	— 158,000
Donkeys	— 810,500
Camels	— 52,000

These figures agree roughly with this Ministry's C.B.P.P. Vaccination figures in the case of cattle currently involved with Mass International CBPP Eradication Campaign.

The following Administrative Divisions are generally affected by drought conditions much more than the rest of the State:

Divisions	Projected Livestock Population, 1971/72.				
	Cattle	Sheep	Goats	Horses	Donkeys
Sokoto	1,007,100	374,823	3,009,870	38,883	619,158
Argungu	147,270	51,357	212,412	9,618	36,936
Gwandu	356,445	323,820	405,768	20,649	142,260
TOTAL	1,510,815	750,000	3,628,050	69,150	798,354

TABLE 2

Number of cattle, sheep and goats in the Northern State

State	Area sq. miles	Cattle	%	Density per sq. mile	Sheep	%	Density per sq. mile	Goats	%	Density per sq. mile
North Central	26,754	708,377	9.7	26	300,743	8.6	11	1,205,561	18.9	45
Kano	16,630	783,200	10.7	46	541,145	15.5	33	1,229,492	19.3	74
North East	104,942	3,213,014	44.1	31	1,501,721	43.1	14	2,089,123	32.7	20
B/Plateau	39,271	668,800	9.2	17	639,926	18.3	16	458,716	7.2	12
C/West (Kwara)	28,672	115,220	1.5	4	107,409	3.1	4	112,671	1.7	4
North West	65,004	1,804,418	24.8	28	398,913	11.4	6	1,288,818	20.2	20
TOTAL	281,273	7,289,996			3,489,875			6,384,381		

Table 3 Livestock Population in North Western State by Administrative Divisions (1971-72)

Division	Cattle	Sheep	Goats	Horses	Mules	Donkeys	Camels	Pigs	Fowls	Ducks	Turkeys	Rabbits
Abu'a	11,493	2,397	29,084	32	—	70	1	6,332	13,692	1,804	2,780	20
Zuru	90,374	11,247	17,347	527	—	2,878	72	45	221,240	624	84	—
Argungu	49,090	17,119	70,804	3,206	—	12,312	852	—	—	—	—	—
Yauri	30,808	18,256	22,732	489	—	5,772	3	—	—	—	—	—
K'gora	65,008	23,089	4,647	215	—	4,631	1	—	7,852	2,842	378	—
Sokoto	335,700	30,925	1,003,299	12,961	21,374	206,386	47,626	—	—	—	—	—
Gwandu	118,812	107,949	135,256	6,883	—	47,420	575	—	—	—	—	—
Bida	29,837	4,151	12,849	459	—	32	—	—	27,162	1,739	384	—
Agai	7,000	1,431	2,661	658	—	62	—	—	95,361	31,921	2,867	—
Lapai	4,309	9,822	10,672	105	23	43	—	217	28,071	7,324	3,314	—
Minna	127,688	108,488	129,720	7,601	—	1,215	—	31,636	148,845	26,717	7,412	—
Total	870,122	364,874	1,495,471	33,109	21,397	280,824	49,130	38,233	542,223	72,971	20,216	—

TABLE 4
Comparison of Livestock Population in North Western State (1968 — 1972)

<i>Livestock</i>	1968-69	1969-70	1970-71	1971-72
Cattle	717,986	772,880 +	910,602 +	870,122 —
Sheep	467,698	475,616 +	198,079 —	364,874 +
Goats	1,371,632	1,469,383 +	1,100,428 —	1,495,471 +
Horses	46,831	42,920 —	87,727 +	33,109 —
Donkeys	81,420	268,589 +	261,053 —	280,824 +
Camels	4,394	3,819 —	12,179 +	49,130 +
Pigs	12,006	5,091 —	21,762 +	38,233 +
Poultry	280,624	290,080 +	732,522 +	635,410 —

Although the most affected areas of these divisions are the border districts such as Sabon Birni, Gada, Goronyo, Gwadabawa and Tangaza in Sokoto Division and Yeldu, Kangiwa, Kamba in Argungu Division the effects were apparent in most districts everywhere. For the northern most districts affected traditionally the bulk of the resident cattle and sheep normally migrate into Zamfara Forest, North Central State and beyond, in the case of north-eastern districts of Sokoto, and into lower reaches of Sokoto/Rima Valley, Yauri and Southern parts of the State in the case of north-western districts of Sokoto and Argungu Divisions.

It is estimated that about 2,063,000 Livestock mainly cattle, sheep, horses, donkeys and camels stay behind normally in the drought-affected areas every dry season. This number includes migrant Rahahi cattle from neighbouring Niger Republic and in fact observations show that the majority of cattle in these parts between February to May are mainly migrant Rahaji. Note, only Cattle and Sheep populations are usually involved in nomadic migrations. This year cattle

from Niger Republic have been observed as far down as Benue Plateau and Kwara States.

General Observations in Drought Areas

During the periods between January to April the following observations were made by Staff of this Ministry through constant trips to the districts of Sabon Birni, Isa, Goronyo, Gada, Gwadabawa and Tangaza:

- (1) Most of the land was completely barren.
- (2) Most of the area was covered with loose sand and in April, May and June, sandstorms were a common feature.
- (3) There was generally an acute water shortage with wells of less than 100ft. mostly dry as early as March. Along the Rima River bed, the river has dried up completely except for small ponds and hand-dug water pits.
- (4) Generally there are absolutely no pastures to graze the livestock and scanty vegetation has no green leaves at all.

- (5) Progressive emaciation was apparent in all livestock until in May/June when alarming reports of mass livestock mortality started reaching the Ministry. Veterinary staff investigated the mass mortality report in Sokoto, Argungu and Gwandu Divisions.

Report on mass mortality of livestock in drought-affected areas of North Western State

The teams of Veterinarians and Divisional Livestock Officers were mobilised to investigate the mass mortality reports. The following observation and statistics came to light:

- (1) In Tangaza district 468 cattle and 419 sheep and goats were examined. Out of these, 97 cattle and 157 sheep and goats were lost due to starvation.
- (2) In Anka district, the following animals were investigated: cattle 726, sheep and goats 589. Losses observed due to starvation were

73 cattle, and 71 sheep and goats in May/June.

- (3) In Zurmi district a total of 1,463 cattle and 2,344 sheep and goats were examined. In these herds 250 cattle and 985 sheep and goats were lost in May/June due to starvation.
- (4) Gusau and Kaura Namoda districts, discussions with District and Village Heads as well as Fulani cattle owners reveals an estimated 20% loss of livestock.
- (5) Gummi district, out of 1,362 cattle and 432 sheep and goats examined, there were 378 cattle and 76 sheep and goats lost by starvation.
- (6) In Argungu Division there were reports of mass deaths generally. Many herds were examined. Of 1,052 cattle deaths 225 were recorded due to starvation.
- (7) In Gwandu Division the team investigated herds containing a total of 8,291 cattle and found a mortality of 759.

<i>Division</i>	<i>No. of livestock investigated cattle, sheep and goats</i>	<i>Mortality</i>	<i>Percentage</i>
Sokoto	7,803	2,087	30%
Argungu	1,052	225	21%
Gwandu	8,291	759	9%
TOTAL	17,176	3,071	18%

Summary of Investigations

During investigations also, the following observations were made:

- (1) There were a very large number of cattle which were *downers* (too weak to stand), the eventual fate of these cattle cannot be ascertained, but it is believed many will die making the eventual percentage mortality higher.

- (2) There was a terrific increase of dry meat trade all over the three divisions of Sokoto, Argungu and Gwandu and also a sharp reduction of price down to ₦30.00, ₦10.00 and ₦1.00, respectively for cattle, sheep, and goats in the rural areas. The situation is much the same all over the three divisions and it is estimated that there is an

over all loss of 20% of livestock in Sokoto, Argungu and Gwandu Divisions. In many of the countryside, carcasses of horses, donkeys and camels can be seen strewn

about in the bush around the villages. Many carcasses were examined at post mortem with stomach and gut compacted with sand.

Summary of Estimated Mortality

<i>Division</i>	<i>Cattle</i>	<i>Sheep/Goats</i>	<i>Horses/Donkeys</i>
Sokoto	201,420	676,937	121,608
Argungu	29,454	52,744	9,111
Gwandu	71,289	142,918	32,581
TOTAL	302,163	875,599	163,300

Government Drought Relief Efforts

In December 1972, the government of North Western State released the sum of ₦300,000 to be directed for immediate livestock drought relief even before aid came from the Federal Government. The Federal Grant of 1.125 million Naira came late at the end of the financial year and therefore the funds could not be immediately used.

The following relief materials were procured and distributed to the drought affected areas all over the state:

- (1) Assorted dry fodder i.e. cowpea hay, groundnut hay, grass hay and farm residues to the amount of 340,00 bundles of approximately 1,500 tons.
- (2) 2,500 tons of cotton seed.
- (3) 100 tons of groundnut cake.
- (4) 2,000 blocks of Pfizer mineral salt licks.

Government policy to sell all relief materials at 50% subsidy created many initial difficulties with relief work especially in the case of dry fodder hay, but eventually Government released this item for free distribution. Also access to all the drought affected areas was very difficult and a lot of the materials could not be readily made available to the needy in the very remote areas.

Mention must be made here of the efforts of the Veterinary Division of the Ministry of Natural Resources of the long term projects being undertaken to combat drought and aid animal husbandry in the rural areas. These efforts include the present plan for 116 boreholes and livestock watering yards distributed in the most severely drought affected districts of Sokoto, Gwandu and Argungu Divisions at a total cost of about 1.6 million Naira. A further 133 boreholes are being planned for the future at an estimated cost of 2.66 million Naira. A 1.0 million Naira project is also in the pipeline for a Rima Valley drought alleviation project which will also include some borehole and dam constructions in the area for livestock use.

The ministry's small dam construction project has also been intensified and presently the Government has commissioned a Firm of Engineering Consultants for a surface water resources survey from which very useful information can be compiled to aid our dam construction programme.

Recommendations for the Future

The 1972/73 drought and the relief undertaken has given all concerned an opportunity to study the problems involved. Future plans are essential to be

considered to enable prompt and timely intervention to prevent more serious disaster to the livestock industry in this State. The following recommendations are worth serious attention:

- (1) There is need to intensify such programmes as establishment and improvement of grazing reserves and range management schemes to provide areas of adequate pasture and water where livestock owners can be advised to move to in such disasters.
- (2) There is need for Government to embark on programmes of direct fodder production and possibly establish strategic fodder reserves in various divisions every year, in advanced agricultural crops in the same way as food crops. Since the bulk of the Fulanis own no land it is government responsibility to cater for the welfare of these people in order to safeguard their livestock which form an important item in the economy of the country.
- (3) There is need to intensify reforestation of vast areas in the Sahelian zones of this state and all forest reserves should be regarded officially

and otherwise as part of livestock amenities as far as grass pastures within them are concerned.

- (4) Government should intensify all projects for provision of adequate water supplies in the rural areas. These can take the form of the present borehole and dam construction programmes.
- (5) The Rural Water Supply Section of Ministry of Works and Survey should be immediately expanded and staffed to look seriously into the problem of providing clean and permanent water to all rural population and livestock. The present well-sinking programme is grossly inadequate.
- (6) The supplementary feeding programme of the ministry of Natural Resources should be expanded and intensified. A Government feed mill is necessary to be established. Transport and storage of facilities have to be also intensified.
- (7) Rural feeder roads have to be improved and increased to make more rural areas more accessible to rural workers.